DISTINGUISHED SPEAKERS – Global Engineering Education

Monday (July 24, 2017)

Session I: Global Engineering Education

11:30 am – 1:00 pm (Monday) - Room 3X105
Session Chair: Dr. Eldon Caldwell, University of Costa Rica

11:30 – 12:00 (Monday)

Dr. Gulnara Abitova

Professor, Department of System Analyses and Control
Eurasian National University
Astana City, Republic of Kazakhstan

Dr. Abitova holds Master's degree in Cybernetics of Technological Processes from Moscow State University of Steel and Alloys at Moscow (Russian Federation), Ph.D degree in Automation of Metallurgy Production from National Academic Research Institute of Metallurgy and Enrichment of the Ministry of Education and Science at Almaty (Kazakhstan) and she graduated Postdoctoral Program in Automation and Control from Eurasian National University at Astana (Kazakhstan). She has been an invited to the Computer and Electrical Engineering Department in State University of New York (SUNY) at Binghamton (NY, USA) for studying her research work. Dr. Abitova is Professor and Researcher in the Department of System Analyses and Control at the L.N. Gumilyov Eurasian National University (ENU, Kazakhstan). Prior to this current position, she was General Director of the Kazakh Information Technology Research Institute (KITRI, Kazakhstan); Deputy Director of the National Accreditation Center, Deputy Director of the Science Committee (Ministry of Education and Science, Kazakhstan); Department Director of the Postgraduate Studies (Eastern-Kazakhstan State University, Kazakhstan); Research Engineer in the Laboratory of Physical and Chemical Research (East-Kazakhstan Scientific Research Institute for Non-Ferrous Metals, Kazakhstan) and Researcher in the L.N. Gumilyov Eurasian National University (ENU, Kazakhstan). Dr. Abitova was awarded the International Grant from the President of Republic of Kazakhstan – Scholarship for the study abroad at the USA (2011-2012) and the prestigious Diploma from the Administration of President of the Republic of Kazakhstan (OCSE, December 2010), as well as Awards and Diplomas from Minister of Education and Science of Kazakhstan for the Professionalism (2005-2009).

Dr. Abitova was also the National Coordinator of UNESCO's Education for Sustainable Development, Ministry of Education and Science of Kazakhstan (UNESCO-Kazakhstan, 2008-2009), where she worked on the Project of National Report of the Kazakhstan for UNESCO (within the UN Decade of Education for Sustainable Development). The same time she was a member of many Working Groups and Temporary Committee of the Ministry of Education and Science (Kazakhstan, 2003-2012). She has been an invited speaker at the International conferences (IEEE, SPIE, CSDM, (ICUMT) and published more than 30 research articles in the reputed international proceedings on mathematical and engineering sciences at the USA, Canada, France, Turkey, Malaysia, Bulgaria, and Hungary. Her papers became a basis for a chapter of a book published by Springer. She served as the Track Chair in the IEOM 2012 conference at Istanbul (Turkey, 2012). Dr. Abitova's current research interest includes education and science; management and administration in education, science and ITC; substantial development and ecology; human research; automation and control; control systems and engineering; cybernetics; mathematical modeling; sensors and control devices; designing automation lines; robust control and robust system; cloud technology; development of ITC; cyber security; open source and intelligent system; non-destructive testing technology.

12:00 – 12:30 (Monday)

Dr. Eldon Caldwell

Director, Industrial Engineering Department
Engineering School, University of Costa Rica

Eldon Caldwell, is full professor/ Cathedraticus of the University of Costa Rica, Central America; Doctor (Ph.D.) in Industrial Engineering major in Lean Operations Engineering. He developed new heuristic sequencing algorithms in order to reduce cycle times and received Suma Cum Laude in his doctoral dissertation and Academic Crown Excellence Award in Autonomous University of Central America/ University of Nevada, USA. Currently, he is doctoral researcher at the (Dr. Sc.) Computing Science Program at the University of Alicante, Spain and doctoral researcher at the Dr. Ed. Program at University of Costa Rica, receiving the Academic Excellence Award 2013.

Dr. Caldwellis "Lean Systems Certificated Specialist", MAPV-University of Nevada, USA, ASQ-Six Sigma Black Belt Certified Trainer, and Spanish publications technical reviewer of Gary Conner, 2002 Shingo Prized. Also, Dr. Caldwell has been recognized by the IEOM Society with the "Outstanding Service Award" for his career of over 25 years as an educator, researcher and promoter of development of industrial engineering. Dr. Caldwell earn his B.Sc. and Master degree in Industrial Engineering at University of Costa Rica (Summa Cum Laude) and he earn a Master degree in Service Marketing, as well in Financial Analysis at Interamerican University of Puerto Rico (Costa Rica); M.Sc. Health Management Systems at UNED, Costa Rica and a M.Sc. Operations Management at ITESM, México. He is author of many scientific articles and two books: "Marketing of Social Products & Services", UCR Pub. and "Lean Manufacturing: Fundamentals and techniques for cycle time reduction", Kaikaku Ins. Press, USA.

Dr. Caldwell served as Operations Manager at MASECA, CA; Lean Manufacturing Project Manager at Eaton Corp. Costa Rica, General Manager at Quirós & Cía-Bandag Inc. and General Manager at Lean Systems Intl., USA. He has 25 years of experience as advisor and consultant in Operations Management, Lean Manufacturing and Lean Logistics at Interamerican Bank for Development, WHO, UN, World Wide Bank, Coca-Cola, Ministry of Health, Costa Rica, Honduras, Panamá, Costa Rican Institute for Electricity, RTC- Perú, Young Electrical Signs, Nevada, USA, AirCare Inc., Reno, Nevada, Plan International-Honduras, and many others. Currently, Dr. Caldwell is Director of Industrial Engineering Department at Engineering School of University of Costa Rica.

12:00 – 12:30 (Monday) OPEN

Session II: Global Engineering Education

2:30 pm – 3:45 pm (Monday) - Room 3X105

Session Chair: Dr. Stuart C Burgess, University of Bristol, UK

2:30 – 2:55 (Monday)

Dr. Klara Kövesi
Associate Professor, Industrial Management and Innovation Marketing
ENSTA Bretagne
French Graduate and Post-Graduate Engineering School and Research Institute
Department of Social and Human Sciences
Brest, France

Graduate Engineers' Work-Readiness – Bridging the Mismatch between Industry Perception and Expectation

Klara Kövesi holds Bachelor's degree in computer sciences and Master's degrees in business engineering and economics. She obtained PhD degree in management and marketing from University of Rennes 1, in 2008. She has nearly ten years industrial experience in telecommunication industry at several multinational companies and eight years teaching experience in academia. Currently, she is associate professor at ENSTA Bretagne in France. She teaches graduate courses in Industrial and Innovation Management, Marketing of New Technology and Entrepreneurship. She is member of the laboratory CRF (Research Laboratory of Education) at CNAM in Paris. Her research interests in engineering education are employability and placement, interdisciplinary collaboration, entrepreneurship learning and teaching.

2:55 – 3:20 (Monday)

Dr. Stuart C Burgess
Professor of Engineering Design
Department of Mechanical Engineering
University of Bristol, UK

Stuart Burgess completed an engineering apprenticeship with Stothert and Pitt Cranes in Bath whilst completing a thin sandwich degree in mechanical engineering. After completing his PhD in the area of machine design he worked for the European Space Agency for 5 years mainly working on the ENVISAT earth observation satellite which is the largest civilian satellite in the world. He designed the solar array deployment mechanism including inventing a new type of gearbox – the double action worm gear set. He spent three years at Cambridge University as an Assistant Director of Research and Fellow of Selywn College. He has been at Bristol University since 1997 mainly working in the area of design optimisation of mechanical systems and biomechanical systems.

3:20 – 3:45 (Monday)

Dr. Zahid Usman (CEng MIMechE)
Researcher and Lecturer
Manufacturing Informatics, Robotics and Automation, and Manufacturing Engineering
Coventry University
United Kingdom

Dr. Usman is a chartered engineer with extensive experience in both industrial and research environments. His research experience expands to over six years within the areas of manufacturing information, machine vision, robotics and automation. He is an active researcher in robotic metrology and assembly, machine vision and manufacturing informatics. He has been involved in several research projects with leading aerospace and automotive industries. He also has experience of working for leading manufacturing organisations such as Rolls Royce and Massey Fergusons Tractors. As a teacher, Dr Usman is focused on training engineering students to be industrially ready by conducting industry based teaching. His areas of expertise are manufacturing knowledge sharing through ontologies, robotics and automation, vision assisted robotic metrology, assembly and joining.

Session III: Global Engineering Education

4:00 pm – 5:15 pm (Monday) - Room 3X105

Session Chair: Dr. Rami Hikmat Fouad Al-Hadeethi, The University of Jordan, Amman, Jordan

4:00 – 4:25 (Monday)

Dr. Aydin Nassehi
Reader in Manufacturing Systems, CIRP Associate Member, FHEA, MIET
& Managing Editor of the International Journal of Computer Integrated Manufacturing
Department of Mechanical Engineering, Queen's Building
University Walk, Clifton, Bristol, BS8 1TR, UK

Industry 4.0: An industrial engineering and operations management overview

Aydin Nassehi is a Reader in Manufacturing Systems at the University of Bristol. He received his PhD in Mechanical Engineering from the University of Bath. In 2007, Dr Nassehi was appointed to a Research Council UK Research Fellowship and has gained promotions to Lecturer in 2012, and Senior Lecturer in 2013. He also gained an MSc in Software Engineering with distinction from the University of Oxford in 2013. His expertise is in manufacturing interoperability, computational informatics including energy efficiency modelling and analysis of manufacturing

processes and knowledge based CAD/CAM and CAx systems. He has received £3.5m of national and international research funding and taken part in two FP7 projects namely DEMAT and, as the technical leader, STEPMAN. He has published over 90 refereed papers and been on technical & scientific committees of a number of international conferences including the FAIM series of conferences since 2008. He is a CIRP Associate Member, the convener of ISO standards group in charge of developing ISO14649 for cyber physical manufacturing resources (ISO TC184/SC1/wg7) and the Managing Editor of the International Journal of Computer Integrated Manufacturing.

4:25 – 4:50 (Monday)

Professor Ezendu Ariwa
Director and Adjunct Professor
Agriculture Mechanization Centre (AMC)
Imo State Polytechnic
Umuagwo, Nigeria

4:50 – 5:15 (Monday)

Dr. Rami Hikmat Fouad Al-Hadeethi
Associate Professor
Industrial Technology & Operations Management
The University of Jordan, Amman, Jordan

An international, award winning Associate Professor of Industrial Technology & Operations Management whose solid understanding of business administration in an engineering context, passion for learning, and consultative leadership style are the driving forces behind a progressively successful 25+ year career. Enjoys inspiring students across the EMEA to achieve their full academic and personal potential. Founder of academic departments, colleges and programmes in Iraq and Jordan, and participant in worldwide conferences

The International Federation of Engineering Education Societies (IFEES)

IFEES was founded in 2006, at the American Society for Engineering Education's Global Conference in Rio de Janeiro, Brazil. Engineering education leaders from around the world had gathered the previous year to explore to possibilities of creating an international organization for engineering education societies. IFEES is proud to be leading the effort in connecting the world's engineering education societies and leveraging our members' collective strengths in order to improve engineering education worldwide. IFEES members represent a diversity not only in cultures, but in engineering education interests, from quality assurance to engineering education, from pedagogy to the role of technology in the classroom. IFEES member societies are expanding their global reach, and new relationships and collaborations are created all the time through IFEES' global network.

Through the collaboration of its member societies, IFEES will work to establish effective engineering education processes of high quality around the world to assure a global supply of well-prepared engineering graduates. IFEES will strengthen member organizations and their capacity to support faculty and students. It will attract corporate participation, helping to connect engineering graduates with international corporations that have a pressing need for well-trained engineers who can work in a global environment. IFEES will also enhance the ability of engineering faculty, students and practitioners to understand the varied cultures of the world and work effectively in them.

Global Engineering Deans Council (GEDC)

Recognizing the global need for a world-wide forum of engineering deans and rectors, a group of over 20 leaders of engineering education institutions and corporate partners first met in Rio de Janeiro, Brazil, on 9 October 2006 and in Istanbul, Turkey, on 30 September 2007. Encouraged by IFEES and modeled after the ASEE Engineering Deans Council (EDC), the Global Engineering Deans Council (GEDC) was created on 9 May 2008 in Paris, France. The main goal of the GEDC is to provide engineering deans and rectors with ideas, tools, and "best" practices necessary to become innovative leaders of engineering education

The GEDC holds annual meetings surrounding four strategic objectives: Institutional Leadership, Curriculum Leadership, Policy Leadership and Accreditation Leadership. Accommodating for its diverse membership, the GEDC has met in Argentina, Brazil, Turkey, France, Singapore, People's Republic of China, United States of America, Hungary, the United Arab Emirates, and will meet in Italy and Australia in 2015.

*Represented by **Dr. Hans J Hoyer** (Secretary General, IFEES and Executive Secretary, GEDC)*