



First Central America IEOM Symposium on Industry 4.0, Logistics 4.0 and Manufacturing 4.0

San José Costa Rica, June 12-13, 2019

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IEOM Society International, a nonprofit organization, has become a premier international platform and forum for academics, researchers, scientists and practitioners to exchange ideas and provide insights into the latest developments and advancements in the fields of Industrial Engineering and Operations Management. IEOM Society's core purpose is to globally foster critical thinking and its effective utilization in the field of Industrial Engineering and Operations Management by providing means to communicate and network among diversified people, especially in emerging countries, motivated by similar interests.

Venue: [Wyndham San Jose Herradura Hotel & Convention Center](#)

1000 San Jose | 3 Miles South of Intl Airport, San Antonio De Belen 71880-1000, Costa Rica

Room Reservation at Wyndham:

UCR Rate: special rate for those who book for the IEOM-UCR event. Participants must make the reservation directly by contacting: Evelyn Esquivel, Sales Department, eesquivel@wyndhamherradura.com
Cellphone: +506 8746 6767, Phone: +506 2209 9810, Must mention "UCR Rate"

Wyndham Hotel has a special rate which is called: UCR Rate. Attendants must to write Marta Ruiz for coordination. Email of Marta Ruiz P: mruizp@wyndhamherradura.com, Phone: +506 2209 9857

The hotel has FREE SHUTTLE from Airport to Hotel but special transports have a cost. The following are the links for booking and information and it is important to call or email to Marta Ruiz, Sales Coordinator of Wyndham Hotel. Link en Ingles: <http://landing.hoteleraBonanza.com/rmre> Link en Español: <http://landing.hoteleraBonanza.com/rmr>

Registration Fee: \$300 for professionals \$50 for students

- Registration**
- Step 1 - Complete the registration form
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Keynote Speakers



Dr. Eldon Caldwell, Member of the IEOM Academy of Fellows, IEOM Society, Full Professor and Chair, Industrial Engineering Department, School of Engineering, University of Costa Rica



Dr. F. Frank Chen, Full Professor, Lutcher Brown Distinguished Chair in Advanced Manufacturing, Mechanical Engineering Department & Center for Advanced Manufacturing & Lean Systems, The University of Texas at San Antonio, USA



Dr. Wilkistar Otieno, Associate Professor and Chair, Industrial and Manufacturing Engineering, University of Wisconsin-Milwaukee, USA



Dr. Ahad Ali, Associate Professor and Director of Industrial Engineering Program, Lawrence Technological University, Michigan, USA



José Fallas, Business Excellence Manager, Flex, Alajuela, Costa Rica – “Excellence in Manufacturing”



Laura Camacho Vega, Channel Manager, Siemens PLM Software Mesoamérica



Franco Omar Ramos Langer, Channel Technical and Business Enablement Manager, Siemens PLM Mesoamérica



Professor Donald Reimer, Adjunct Professor, A. Leon Linton Department of Mechanical Engineering at the Lawrence Technological University USA



M.S. Eng. Paul Aiello, Executive Director, CERT Education, FANUC America



M.S. Eng. Jim Wall, Executive Director, Smart Automation Certification Alliance, USA



M.S. Eng. Jim Steele, VP Vice President of Training and Partnership Development, Amatrol Inc., USA

Program

Day 1, June 12, 2019, Wednesday – Wyndham San Jose Herradura Hotel & Convention Center

8:00 – 8:30 Registration

8:30 – 9:00 Inauguration

9:00 – 9:30 Opening Keynote: **Dr. Eldon Caldwell**, Full Professor and Chair, Industrial Engineering Department, School of Engineering, University of Costa Rica

9:30 – 10:00 Coffee Break

10:00 – 11:00 Keynote Speaker: **Dr. Wilkistar Otieno**, Associate Professor and Chair, Industrial and Manufacturing Engineering, University of Wisconsin-Milwaukee, USA

11:00 – 12:00 Round Table: Industry 4.0/Logistics 4.0/Manufacturing 4.0 Discussion

12:00 – 1:00 Networking Lunch - Wyndham San Jose Herradura Hotel & Convention Center

1:00 – 5:00 **Industry 4.0 Workshop** with Central America Industry Managers

- 1:00 – 1:30 **José Fallas**, Business Excellence Manager, Flex, Alajuela, Costa Rica – “**Excellence in Manufacturing**”
- 1:30 – 2:30
 - **Laura Camacho Vega**, Channel Manager, Siemens PLM Software Mesoamérica
 - **Franco Omar Ramos Langer**, Channel Technical and Business Enablement Manager, Siemens PLM Mesoamérica
- 2:30 – 3:00 Networking Break
- 3:00 – 5:00 **Dr. Ahad Ali**, Associate Professor and Director of Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering, Lawrence Technological University, Michigan, USA

5:00 – 7:00 Sightseeing

Day 2, June 13, 2019 (Thursday) Wyndham San Jose Herradura Hotel & Convention Center

8:00 – 8:30 Registration – Wyndham San Jose Herradura Hotel & Convention Center

8:30-9:30 Keynote Speaker: **Paul Aiello**, FANUC America. **Industry 4.0-IIOT-Smart Manufacturing**

9:30 – 10:00 Coffee-Break

- 9:30-11:00 **Jim Wall and Jim Steele**, Industry 4.0 and Smart Manufacturing Demonstration for Managers, SACA, USA-FANUC America-AMATROL Inc.
- 10:00-11:00 **Tony Nighswander**, CEO APT FANUC America
- 11:00-12.30 **Jim Wall and Jim Steele**, Industry 4.0 and Smart Manufacturing Demonstration for Managers, SACA, USA-FANUC America-AMATROL Inc.
- 12:30 – 1:30 Lunch – Wyndham San Jose Herradura Hotel & Convention Center
- 1:30-2:30 Keynote Speaker: **Dr. F. Frank Chen**, Lutcher Brown Distinguished Chair in Advanced Manufacturing, University of Texas at San Antonio, USA - "Integrating Lean Practices and Industry 4.0 Technologies for Smart Manufacturing in Next-Generation Enterprises"
- 2:30-4:00 Student Posters Competition and Technical Poster Presentation
- 4:00 –5:00 Keynote Speaker: **Professor Donald Reimer**, Adjunct Professor, A. Leon Linton Department of Mechanical Engineering at the Lawrence Technological University USA
- 5:00-7:00 **Closing of Symposium, Awards and Cocktail** - Wyndham San Jose Herradura Hotel & Convention Center / University of Costa Rica

Biographies



Dr. Eldon Caldwell
Director, Industrial Engineering Department
Engineering School
University of Costa Rica
San Jose, Costa Rica

Eldon Caldwell, is full professor/ Cathedricus of the University of Costa Rica, Central America and member of the IEOM Society Academy of Fellows; Doctor (Ph.D.) in Industrial Engineering major in Lean Operations Engineering, University of Nevada. Currently, he is doctoral researcher at the (Dr. Sc.) Computing Science Program, major in Robotics and Automation 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 and 2015. Dr. Caldwell is ISO 9000 Lead Auditor, UK, "Lean Systems Certificated Specialist", MAPV-University of Nevada, USA and ASQ-Six Sigma Black Belt Certified Trainer. 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.



Dr. Wilkistar Otieno
Associate Professor and Chair
Industrial and Manufacturing Engineering
University of Wisconsin-Milwaukee, USA

Wilkistar Otieno is an Associate Professor and Chair of Industrial and Manufacturing Engineering at the University of Wisconsin-Milwaukee. She holds a Doctoral degree in Industrial Engineering and Masters in Statistics degree both from the University of South Florida. She earned a Bachelor's degree in Mechanical and Production Engineering from, Moi University in Eldoret, Kenya. Her research interests include sustainable manufacturing (remanufacturing), sustainable

energy (solar power generation systems performance analysis), sustainable water systems reliability and overall systems optimization. She has interests in Science Technology Engineering and Math education, particularly for female and underrepresented minority students. She is a member of IIE, IEEE, INFORMS, SWE and QSR.



José Fallas
Business Excellence Manager
Flex
Alajuela, Costa Rica

Excellence in Manufacturing

Jose Fallas, is an Industrial Engineer, graduated in the UCR (University of Costa Rica) in 2013. He obtained his Six Sigma Black Belt certification by ASQ (American Society of Quality) in 2016. Has worked in the automotive industry for six years, being part of the Engineering and Business Excellence Department. Through his 4.5 years as Industrial Engineer he gained experience in New Product Introduction, automation, simulation, process design and System Capacity. Then as Business Excellence Manager he has been exposed to Lean and Six sigma application, Kaizen, KPI Control and Company Strategy. Has been part of the Lean Bronze certification program. Also, he has led several Kaizen Events with more than \$100,000 of hard savings each of them. He is driving the implementation of the Industry 4.0 wave at Costa Rica Flex site. Also, Mr. Fallas has been professor in private College (UH) in Costa Rica and work for PCIT; an institute that works with the government in a social program called "Empleate" focused in communities that are in social and economic risk.



Ahad Ali, Ph.D.
Associate Professor
Director, Bachelor of Science in Industrial Engineering (BSIE)
Director, Master of Science in Industrial Engineering (MSIE)
Director, Smart Manufacturing and Lean Systems Research Group
Coordinator, Siemens Electro-Matic Industrial Engineering Lab
A. Leon Linton Dept. of Mechanical Engineering
Lawrence Technological University
Southfield, Michigan, MI 48075, USA

Ahad Ali is an Associate Professor and Director of Industrial Engineering Program and Director of Smart Manufacturing and Lean Systems, A. Leon Linton Department of Mechanical Engineering at the Lawrence Technological University, Southfield, Michigan, USA. He earned B.S. in Mechanical Engineering from Khulna University of Engineering and Technology, Bangladesh, Masters in Systems and Engineering Management from Nanyang Technological University, Singapore and Ph.D. in Industrial Engineering from University of Wisconsin-Milwaukee. Dr. Ali was Assistant Professor in Industrial Engineering at the University of Puerto Rico - Mayaguez, Visiting Assistant Professor in Mechanical, Industrial and Manufacturing Engineering at the University of Toledo, and Lecturer in Mechanical Engineering at the Bangladesh Institute of Technology, Khulna. He received an Outstanding Professor Award of the Industrial Engineering Department, University of Puerto Rico -Mayaguez, (2006-2007). He has published 50 journal and 121 conference papers. Dr Ali has done research projects with Chrysler, Ford, DTE Energy, New Center Stamping, Whelan Co., Delphi Automotive System, GE Medical Systems, Harley-Davidson Motor Company, International Truck and Engine Corporation (ITEC), National/Panasonic Electronics, and Rockwell Automation. His research interests include manufacturing systems modeling, simulation and optimization, intelligent scheduling and planning, artificial intelligence, predictive maintenance, e-manufacturing, and lean manufacturing. He has successfully advised seven doctoral students. Dr. Ali has involved with many international conference committees. He has served as an Executive Director of IEOM Society International and Conference Co-Chair of the International Conference on Industrial Engineering and Operations Management and hold events in Dhaka, Kuala Lumpur, Istanbul, Bali, Dubai, Orlando, Detroit, Rabat, UK, Bogota, Paris, Washington, DC, Pretoria and Bangkok. Dr. Ali has visited 20 countries for professional events. He is a member of IEOM, INFORMS, SME and IEEE.



Dr. F. Frank Chen
Lutcher Brown Distinguished Chair in Advanced Manufacturing
University of Texas at San Antonio
USA

Dr. F. Frank Chen is Lutcher Brown Distinguished Chair in Advanced Manufacturing at the University of Texas at San Antonio where he founded the Center for Advanced Manufacturing and Lean Systems and served as the center director. Before joining UT-San Antonio, he was with Virginia Tech as John Lawrence Endowed Professor at the Grado Department of Industrial and Systems Engineering there he founded the Center for High Performance Manufacturing. He was with Caterpillar Technical Center as Senior Manufacturing Systems Engineer and as Project Manager before returning to academia in 1991. He received the 1996 NSF Presidential Faculty Fellows (PFF) Award at the White House, with current research interests in cloud manufacturing, defense manufacturing, applications of lean tools and techniques in higher education and service industries. He is an elected Fellow of the Society of Manufacturing Engineers (SME) and the Institute of Industrial and Systems Engineers (IISE).



Laura Camacho Vega
Channel Manager
Siemens PLM Software Mesoamérica

With more than 12 years of experience in the Siemens ecosystem, as well as channels, Laura Camacho has developed several positions among which are; Sales, Operations, Business Development.

Since January 2016 Laura Camacho has served as Channel Manager of Siemens PLM Software Mesoamerica a business unit of the Siemens Digital Industries Software division. Based in the state of Querétaro, Laura is responsible of the development and implementation of the PLM technology strategies and services and the strengthening of sales channels as well.

Likewise, she oversees the development and growth of channels in Mesoamerica and the generation and implementation of commercial strategies. Laura leads a team of experts in PLM that provides design, development and product manufacturing technologies for the automotive, aerospace, energy (oil & gas) and manufacturing sectors.

Laura completed the computer systems degree. In addition to that Laura has an account with strategic sales studies in Mexico and United States, leadership and Emotional Intelligence. Her experience in the technology sector has led her to listen to the needs of her clients and lead 2 channel strategies one for SMB Solutions with Mainstream (Solid Edge Cam PRO Femap) and the other Enterprise Solutions with NX, Teamcenter Tecnomatix nationally and Central America.



Franco Omar Ramos Langer
Channel Technical and Business Enablement Manager
Siemens PLM Mesoamérica

Franco Ramos Langer, born in Mexico City, has a Bachelor's degree in Mechatronics Engineering from UVM (Universidad del Valle de México). His professional career started in 2009, as an implementer of CAD/CAM/CAE technologies, highlighting the benefits in the industry, of the technology enforcement in the chain of new products development.

In 2015, he joined the Siemens PLM team as a technology consultant for the solutions portfolio, justifying the integration of high performance technology in the value chain for different companies. Franco leads the technological partners of Mesoamerica since 2016, providing technical support, advice, training and the necessary tools to ensure the successful performance of Siemens solutions.

Currently, his main interest is to transmit the importance of the available technology implementation, and taking advantage of it, in order to transform and improve current industry processes, to obtain great benefits.

His experience is focused on providing solutions for the different challenges that the industry demands nowadays, mainly in the automotive industry, aeronautics, machinery and consumer goods.



M.S. Eng. Paul Aiello
Executive Director, CERT Education
FANUC America Corporation

Paul Aiello is an expert in automated systems and robotics with more than 40 years of industrial experience in North America and in World Operations. He has worked at FANUC Robotics for more than 20 years, holding positions such as Director of CERT Sales and Operations, Sales Director and, in addition, he held the position of Vice President of Sales of MediaLab 3D Studio, USA and held the position of Principal Owner of ACI Construction Inc., USA. Currently, Paul is a senior executive of FANUC Robotics, developing educational systems and supporting technical certifications in the industry, as well as promoting production technologies 4.0.



M.S. Eng. Jim Wall
Executive Director
Smart Automation Certification Alliance, USA

James Wall is currently the Executive Director of the Smart Automation Certification Alliance (SACA). In that capacity, he is responsible for the development and deployment of the new SACA Skill Standards and Certifications. Prior to joining SACA, he was with National Institute for Metalworking Skills (NIMS) serving as Executive Director and Deputy Director for 12 years. Jim also has a background in education having been a faculty member at the Pennsylvania State University, Workforce Education and Development Program where he helped develop new career and technical education instructors. While at Penn State, he also directed a multi-year project to upgrade the metalworking programs across the state. Jim was the owner of a company that did precision machining, welding, and fabrication of down-hole drilling equipment for the oil and gas industry. Jim started his professional career as a high school career and technical instructor teaching machining.



M.S. Eng. Jim Steele
VP Vice President of Training and Partnership Development
Amatrol Inc., USA

Jim Steele is a native Hoosier originally from Richmond, but living in Scott County now. He currently is the Vice President of Training and Partnership Development at Amatrol Inc. where he is responsible for the liaison between Amatrol and its strategic partners. He also manages the Amatrol Technology Transfer Institute's train the trainer courses and programs. Prior to Amatrol Jim has held several positions including chair of the Richmond IvyTech electronics department and was an electronics technician and mechanic in the military. Sample past and current projects include the following: member of the SACA technical work group for creating international industry 4.0 certifications; Chairman of NIMS ITM subcommittee; training for approximately fifty Polytechnic professors in Ghana Africa; managed the development of MSSC Certified Production Technician and Green Technician courses and Chairman of ITM subcommittee for NIMS among many others. Jim has served on several committees and boards associated with training to include advisory boards for Purdue and IvyTech programs, grant committees for vocational schools, and certification boards for local high schools. He has also served as chairman for CETI's master board. Some of Jim's education endorsements include an AAS in business from IvyTech, BA in business from McKendree University, and an MS in Instructional Systems Technology from Indiana University. Certifications include master level electronics technician, MSSC certifications, and several technology certificates.



Professor Donald M. Reimer

Director of Membership and Chapter Development – IEOM Society
President, The Small Business Strategy Group, Detroit, Michigan, USA
Adjunct Faculty – A. Leon Linton Department of Mechanical Engineering
Lawrence Technological University, Southfield, Michigan, USA

Donald M. Reimer is an adjunct faculty at the A. Leon Linton Department of Mechanical Engineering in College of Engineering at Lawrence Tech in Southfield, Michigan. He coordinates the Certificate of Entrepreneurial Engineering Skills. Mr. Reimer holds a Bachelor of Science degree in Industrial Management from Lawrence Technological University and a Master of Arts degree in Political Science from University of Detroit/Mercy. He is a Certified Management Consultant with over 35 years of experience in working with closely-held businesses. He has taught courses in entrepreneurship, strategic management, corporate entrepreneurship and innovation for engineers. Mr. Reimer is a member of the Lawrence Tech Kern Campus Committee, Coordinator of the Lawrence Tech Innovation Encounter. He is faculty Advisor of the Collegiate Entrepreneurs' Organization. Mr. Reimer serves as a Kern Fellow of The Kern Family Foundation, Co-Direct of the Coleman Fellows Program, member of the National Collegiate Entrepreneurs' Organization Faculty Advisory Council and is a member of the American Society of Engineering Education. He has operated his own consulting company – The Small Business Strategy Group for 23 years. He published numerous articles on small business, entrepreneurship and strategic thinking. He has received several awards and recognition by local, state and federal agencies for his work in entrepreneurship and minority business development. Mr. Reimer served as member of the Minority Economic Development Committee of New Detroit. Mr. Reimer is member of the Small Business Advisory Council of the Detroit Regional Chamber of Commerce. Mr. Reimer is a member of Advisory Board of the Milwaukee Junction Small Business Assistance Center. He is also a member of the Applied Innovation Alliance. Mr. Reimer serves as a KEEN Fellow for The Kern Family Foundation and is a member of United States Association of Small Business and Entrepreneurship.



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