



APMS 2016 INTERNATIONAL CONFERENCE ADVANCES IN PRODUCTION MANAGEMENT SYSTEMS

Production Management Initiatives for a Sustainable World
September 3 - 7, 2016, Iguassu Falls, Brazil



FINAL PROGRAM

SUMMARY

WELCOME MESSAGE	3
------------------------	---

CONFERENCE COMMITTEES

Conference Chairs	4
International Scientific Committee	4
Domestic Committee	7
International Advisory Board	7

CONFERENCE VENUE MAP

GENERAL INFORMATION

PROMOTION AND SPONSOR

PROGRAM AT A GLANCE

WORKSHOP

DOCTORAL WORKSHOP

SCIENTIFIC PROGRAM

POSTER SESSIONS

WELCOME MESSAGE

Dear Members of the IFIP WG 5.7

Dear Participants of the APMS 2016

I am pleased to welcome you to the **Advances in Production Management Systems - APMS 2016 Conference**.

Through this meeting, I invite you to participate in an open and constructive dialogue about the innovative aspects of the production management initiatives for a sustainable world.

It is gratifying to note that the agenda of the Conference covers a broad choice of very interesting items related to Production Management Systems. It is also an excellent opportunity to renew contacts and discuss problems of mutual interest with delegates from several countries.

Welcome to Brazil. Welcome to Iguassu Falls, one of the Wonders of Nature, and the homeland for Guarani Indians since ancient times. Land of tropical forests, exotic birds, and friendly people.

That many of you travel long distances serves to remind us just how important it is to discuss the topics related to the sustainable initiatives in the Production Management Systems.

Thank you for coming.

Irenilza de Alencar Nääs
Conference Chair of APMS 2016
UNIP - Brazil

CONFERENCE COMMITTEES

CONFERENCE CHAIRS

Conference Chair

- Irenilza de Alencar Nääs, UNIP, Brazil

Vice-Chairs

- Oduvaldo Vendrametto, UNIP, Brazil
- Dimitris Kiritsis, EPFL, Switzerland
- Gregor Von Cieminski, ZF Friedrichshafen AG, Germany

INTERNATIONAL SCIENTIFIC COMMITTEE

Chairs

- Cecilia Villas Boas, UNIP, Brazil
- Pedro Luiz de Oliveira Costa Neto, UNIP, Brazil

Committee members

- A. Kusiak, University of Iowa Industrial Engineering, USA
- Abdelaziz Bouras, Qatar University & Ministry of ICT, Qatar
- Agostino Villa, Dept. di Sistemi di Produzione / Ed Economia dell'AZIENDA / Politecnico di Torino, Italy
- Alberto Portioli Staudacher, Politecnico di Milano / Department of Management, Economics and Industrial Engineering, Italy
- Alexandre Dolgui, Ecole Nationale Supérieure des Mines de Saint-Etienne, France
- Alfred Büchel, Switzerland,
- Allan S. Carrie, University of Strathclyde / Centre for Strategic Manufacturing / Dept. of Design, Manufacture / and Engineering Management, UK
- André Thomas, ENSTIB, France
- Andrew Kusiak, University of Iowa, USA
- Asbjørn Rolstadås, Norwegian University of Science and Technology / Department of Production and Quality Engineering, Norway
- Ashok K. Kochhar, Aston University / School of Engineering and Applied Science, UK
- Assistant Catherine Da Cunha, Ecole Centrale de Nantes Institut de Recherche en Communications et en Cybernétique de Nantes, France
- Assistant Dimitris Mourtzis, Laboratory for Manufacturing Systems and Automation (LMS) / University of Patras, Greece
- Assistant Magali Bosch-Mauchand, Université de Technologie de Compiègne Department of Mechanical Systems Engineering Laboratoire Roberval, France
- Assistant Thorsten Wuest, Department of Industrial and Management Systems Engineering; / Benjamin M. Statler College of Engineering and Mineral Resources; / West Virginia University, USA
- Bernard Grabot, ENIT, Industrial Engineering, France
- Bernd E. Hirsch, BIBA / University of Bremen, Germany,
- Bernd Hamacher, University of Bremen, Germany
- Bjørn Andersen, Norwegian University of Science and Technology Department of Production and Quality Engineering, Norway
- Boonserm Kulvatunyou, Systems Integration Division / Engineering Laboratory / National Institute of Standards and Technology, USA
- Bruno Vallespir, IMS Laboratory / University of Bordeaux, France
- Byoung-Kyu Choi, KAIST Faculty of Dept of Industrial & Systems Engineering, Korea
- Catherine Da Cunha, Ecole Centrale de Nantes, Industrial Engineering Dept France

- Christopher Irgens, University of Strathclyde, UK
- Christos Emmanouilidis, Computational Systems & Applications Dept. / Cultural & Educational Technology Institute (CETI) / Athena Research & Innovation Centre in Knowledge, Commun. & Information Technologies, Greece
- Dan L. Shunk, Ira A. Fulton School of Engineering / Arizona State University, USA
- David O'Sullivan, National University of Ireland, Galway, Ireland
- David Romero, Tecnológico de Monterrey, Advanced MFG Research Group / Center for Innovation in Design & Technologies, Mexico
- Dimitris Mourtzis, University of Patras, Industrial Engineering Dept., Greece
- Eero Eloranta, Dept. of Industrial Eng. and Mgt. / Helsinki University of Technology, Finland
- Eiji Arai, School of Engineering Osaka University, Japan
- Emeritus Ioánnis A. Pappas, National Technical University of Athens / Department of Mechanical Engineering, Greece
- Emeritus Peter Falster, Dept. of Applied Mathematics and Computer Science / Technical University of Denmark, Denmark
- Erlend Alfnes, Norwegian University of Science and Technology Department of Production and Quality Engineering, Norway
- Erry Yulian Triblas Adesta, Kuliyah Department of Engineering, Malaysia
- Farhad Ameri, Texas State University / Department of Engineering Technology, USA
- Frédéric Demoly, Université de Technologie de Belfort-Montbéliard, France
- Frédérique Biennier, INSA de Lyon Department Informatique -IF LIESP Laboratory, France
- Fredrik Persson, Ph.D., Department of Science and Technology / Linköping Institute of Technology, Sweden
- Gerhard Gudergan, FIR Research Institute for Operations Management / Aachen University of Technology, Germany
- Gert Zülch, IFAB - Lehrstuhl und Institut für Arbeitswissenschaft und Betriebsorganisation / University of Karlsruhe, Germany
- Gideon Halevi, Hal Tech LTD, Israel
- Gilles Neubert, EMLYON Business School / Campus Saint-Etienne, France
- Gregor von Cieminski, ZF Friedrichshafen AG, Germany
- Guang Xun Yang, Dept. of Manufacturing Engineering & Automation / Beijing University of Aeronautics & Astronautics, China
- Gündüz Ulusoy, Faculty of Engineering and Natural Sciences / Sabancı University, Turkey
- Guy Doumeingts, BPM Expert ADELIOR France GFI Group, France
- Hajime Mizuyama, Department of Industrial and Systems Engineering / College of Science and Engineering / Aoyama Gakuin University, Japan
- Hans Wortmann, Groningen University / Dept of Economics & Business, The Netherlands
- Hans-Henrik Hvolby, Centre for Logistics / Aalborg University, Denmark
- Hans-Peter Wiendahl, Institute for Production Systems and Logistics / Leibniz University of Hannover, Germany
- Harinder Jagdev, Digital Enterprise Research Institute / National University of Ireland, Ireland
- Heidi C. Dreyer, Norwegian University of Science and Technology Department of Production and Quality Engineering, Norway
- Henk-Jan Pels, Eindhoven University of Technology / Dept. Of Technology Management / Section Information & Technology, The Netherlands
- Hermann Lödding, Institute of Production Management & Technology Hamburg University of Technology, Germany
- Hironori Hibino, Technical Research Institute, JSPMI, Japan
- Hiroyuki Yoshikawa, Emeritus University of Tokyo / President / National Institute of Advanced Industrial Science and Technology, Japan
- Hyunbo Cho, Pohang University of Science & Technology, Korea
- Ichiro Inoue, Kyoto Sangyo University / Faculty of Business Administration & Graduate School of Management, Japan
- Ilias Tatsiopoulos, National Technical University of Athens / Dept of Mechanical Eng / Industrial Mgm. and O.R. Section, Greece
- Ilkeyong Moon, Dept. of Industrial Engineering / Seoul National University, Korea
- Ing. Kai Mertins, Knowledge Raven Management GmbH, Germany
- Ing. Klaus-Dieter Thoben, Universität Bremen und Bremer Institut fuer Produktion und Logistik GmbH (BIBA), Germany

- Ing. Volker Stich, FIR Research Institute for Operations Management / Aachen University of Technology, Germany
- Irenilza de Alencar Naas, UNIP- Paulista University, Brazil
- Iveta Zolotová, Department of Cybernetics and Artificial Intelligence / Faculty of Electrical Engineering and Informatics / Technical University of Košice, Slovakia
- Jacques H. Trienekens, Department of Social Sciences, Management Studies Group / Wageningen University, The Netherlands
- Jan Frick, Stavanger University, Norway
- Jan Ola Strandhagen, Norwegian University of Science and Technology Department of Production and Quality Engineering, Norway
- Jens O. Riis, Aalborg University / Centre for Industrial Production, Denmark
- Jim Browne, CIM Research Unit University College, Ireland
- Jinwoo Park, Department of Industrial Engineering / Seoul National University, Korea
- Jinwoo Park, Seoul National University, Korea
- John Johansen, Centre for Industrial Production / Aalborg University, Denmark
- John P. Shewchuk, Virginia Polytechnic Institute and State University / Grado Department of Industrial and Systems Engineering, USA
- Kai Mertins, Knowledge Raven Management GmbH, Germany
- Kari Tanskanen, Helsinki University of Technology (HUT) / Dept of Industrial Management, Finland
- Kathryn E. Steckle, University of Texas at Dallas / School of Management, USA
- Kenn Steger-Jensen, Department of Production / Aalborg University, Denmark
- Kepa Mendibil, Strathclyde Institute for Operations Management / DMEM / University of Strathclyde, UK
- Klaus-Dieter Thoben, Universität Bremen, Industrial Engineering Dept, Germany
- Krzysztof Santarek, Warsaw University of Technology / Institute for Organisation of Production Systems, Poland
- Lenka Landryova, Technical University of Ostrava / Department of Control Systems and Instrumentation / Faculty of Mechanical Engineering, Czech Republic
- Ilkyeong Moon, Seoul National University, Industrial Engineering Dept, Korea
- Luis Camarinha-Matos, Universidade Nova de Lisboa + Uninova, Portugal
- Magali Bosch-Mauchand, Université de Technologie de Compiègne, Industrial Engineering Dept France
- Manuel Fradinho Duarte de Oliveira, , UK
- Marco Garetti, Dipartimento di Ingegneria Gestionale / Department of Management, Economics and Industrial Engineering / Politecnico Di Milano, Italy
- Marco Macchi, Politecnico di Milano / Department of Management, Economics and Industrial Engineering, Italy
- Marco Taisch, Politecnico di Milano / Dipartimento di Ingegneria Gestionale / Department of Management, Economics and Industrial Engineering, Italy
- Mario Rapaccini, Florence University / Dipartimento di Ingegneria Industriale, Italy
- Mario Tucci, Dipartimento di Energetica "Sergio Stecco" / Università degli Studi di Firenze, Italy
- Masaru Nakano, Ph.D., The Graduate School of System Design and Management / Keio University, Japan
- Ming K Lim, Head of Centre for Supply Chain Improvement / of Supply Chain and Logistics Operations / The University of Derby, UK
- Norio Okino, Emeritus Hokkaido University / Emeritus Shiga Prefectural University, Japan,
- Paolo Gaiardelli, Department of Management, Information and Production Engineering / University of Bergamo, Italy
- Paul Schönsleben, ETH Zurich / Department of Management, Technology and Economics MTEC / BWI Center for Industrial Management, Switzerland
- Peter Falster, Technical University of Denmark, Industrial Engineering Dept, Denmark
- Prof.dr.ir. J.E. Rooda, Systems Engineering / Department of Mechanical Engineering / Eindhoven University of Technology, The Netherlands
- Professor. Adolfo Crespo Marquez, Department of Industrial Management / School of Engineering University of Seville, Spain
- Ralph Riedel, TU Chemnitz / Department of Factory Planning and Factory Management, Germany
- rer. pol. Jan-Peter Lechner, First Global Liaison / Munich Office, Germany
- Ricardo José Rabelo, Federal University of Santa Catarina / Department of Automation and Systems Engineering, Brazil
- Richard Lee Storch, University of Washington / Industrial Engineering, USA

- Riitta Smeds, SimLab / Aalto University / School of Science / Department of Industrial Engineering and Management, Finland
- Robert W. Grubbström, Linköping Institute of Technology / Department of Production Economics, Sweden
- Samuel Gomes, Université de Technologie de Belfort-Montbéliard, France
- Sang Do Noh, Department of Systems Management Engineering, College of Engineering, Sungkyunkwan University (SKKU), Korea
- Sergio Cavalieri, Department of Management, Information and Production Engineering University of Bergamo, Italy
- Sergio Terzi, Politecnico di Milano, Italy
- Shengchun Deng, Research Center of Intelligent Computing for Enterprises and Services / School of Computer and Science / Harbin Institute of Technology, China
- Shigeki Umeda, Japan
- Slavko Dolinšek, University of Ljubljana Institute for Innovation and Development, Slovenia
- Stanislaw Strzelczak, Warsaw University of Technology / Faculty of Production Engineering, Poland
- Stephen Childe, Plymouth Graduate School of Management & Plymouth Business School (Faculty of Business) / University of Plymouth, UK
- Susanne Altendorfer-Kaiser, Chair of Industrial Logistics Montanuniversitaet Leoben, Austria
- Susumu Fujii / Emeritus, Kobe University, Japan
- Thecle Alix, Département Gestion Logistique et transport / IUT Bordeaux Montesquieu, France
- Thomas E. Ruppli, , Switzerland
- Thomas R. Gullledge, Jr, George Mason University / Enterprise Engineering, MS 2E4, USA
- Thomas R. Kurfess, Department of Mechanical Engineering / Carroll A. Campbell Jr. Graduate Engineering Center / International Center for Automotive Research / Clemson University, USA
- Tomasz Koch, Institute of Production Engineering and Automation / Wroclaw University of Technology, Poland
- Toshiya Kaihara, Department of Computer and Systems Engineering / Kobe University, Japan
- Umit S Bititci of Business Performance, School of Management and Languages Heriot Watt University, Edinburgh, UK
- Vidosav D. Majstorovich, University of Belgrade / Faculty of Mechanical Engineering / Laboratory for Production Metrology and TQM, Serbia
- Vijay Srinivasan, NIST, USA
- Vittaldas V. Prabhu, Marcus Department of Industrial and Manufacturing Engineering / The Pennsylvania State University, USA

DOMESTIC COMMITTEE

Members

- Biagio Giovanetti, UNIP, Brazil
- José Vicente Caixeta Filho, ESALQ, USP
- Osvaldo L.G. Quelhas, Fluminense Federal University, UFF
- Jorge Muniz Jr., UNESP, Guaratinguetá
- Feni Agostinho, UNIP, Brazil
- Rodrigo Gonçalves, UNIP, Brazil
- Benedito Sacomano, UNIP, Brazil
- Luis Mauricio Resende, Universidade Tecnológica Federal do Paraná Campus Ponta Grossa
- Ricardo J. Rabelo, Universidade Federal de Santa Catarina

INTERNATIONAL ADVISORY BOARD

- Dimitris Kiritsis, EPFL, Switzerland
- Vittal Prabhu, Penn State University, USA
- Bernard Grabot, University of Toulouse, INP-ENIT, France

CONFERENCE VENUE MAP



GENERAL INFORMATION

CONFERENCE DATE AND VENUE

The **APMS 2016 INTERNATIONAL CONFERENCE - ADVANCES IN PRODUCTION MANAGEMENT SYSTEMS** will be held on from September 3rd to 7th, 2016 in Foz do Iguaçu, Brazil.

VENUE

Bourbon Cataratas Convention & SPA

Av. das Cataratas, 2345 - Foz do Iguaçu-PR

Only 12 km from the Iguassu Falls - named one of the New 7 Nature Wonders - and 10 km from the Foz do Iguaçu International Airport, the Bourbon Cataratas occupies a total area of 165 thousand m². The hotel offers a complete structure for business and leisure in perfect harmony with the exuberant nature in the region.

REGISTRATION DESK

The registration desk will be located at the entrance of the Foyer Iguazu, at Bourbon Cataratas Convention Center. The registration desk will be open during the following hours:

Saturday	September 3 rd	14:00 - 18:00
Sunday	September 4 th	08:00 - 18:00
Monday	September 5 th	08:00 - 18:00
Tuesday	September 6 th	08:00 - 18:00
Wednesday	September 7 th	08:00 - 18:00

Registration for participants includes:

- **General Public and Student** - Registration includes conference attendance, proceedings, conference materials, welcome reception, and gala dinner
- **Accompanying** - Registration includes a welcome reception, gala dinner, and a tour (to be defined by the organization). The accompanying category does not allow to present or to watch papers presentations / other sessions.

INSTRUCTIONS FOR ORAL PRESENTATIONS

Presenters are allotted 15 minutes' total presentation time (10 minutes for the presentation and 5 minutes for discussions and questions). In an effort to synchronize the parallel sessions, session co-chairs have been instructed to retain a strict control of this schedule. This is to allow participants to move from one session to another without missing anything of each presentation.

The official format of presentation is data projector using Microsoft Power Point. All presenters were instructed to bring their presentation on a USB memory stick and load their presentation at Media Desk. Presenters will not be allowed to connect their own computers to the data projectors at the conference.

It is the responsibility of the individual presenters (not the organizers) to ensure their presentations are uploaded at Media Desk at least 2 hours before the beginning of the session and to test them before uploading.

MEDIA DESK

Technicians will be available at the media desk (at Iguazu VI Room) to assist you with uploading your presentation to the correct session at the following times:

Saturday	September 3 rd	14:00 - 18:00
Sunday	September 4 th	08:00 - 18:00
Monday	September 5 th	08:00 - 18:00
Tuesday	September 6 th	08:00 - 18:00
Wednesday	September 7 th	08:00 - 17:00

INSTRUCTIONS FOR POSTER PRESENTATIONS

Poster presenters must mount their poster on the correct board as informed by the organization.

Posters may be fixed from 8:00h on the day of presentation and removed at 17:00. The organization will provide material to help fixing the posters and will not be responsible for posters left in the room.

Each poster presenter has a designated time to be available at their poster and answer eventual questions (see schedule).

The posters being presented each day are listed in this program book.

Poster Session	Date	Time to fix the poster	Session Time	Time to remove the poster
Poster Session 1	September 6 th	8:00	13:30 - 14:00	17:00
Poster Session 2	September 7 th	8:00	13:30 - 14:00	17:00

SOCIAL ACTIVITIES

WELCOME RECEPTION

September 4th, 2016

Place: Bourbon Cataratas Hotel - Pavilion A of the Convention Center

Time: 20:00h to 21:00h

All registered delegates and accompanying persons are invited to an informal drink and good music in the Welcome Reception of APMS 2016. Drinks and Brazilian snacks will be served.

Dress: Casual

** Attendance to this reception is included in the registration fee

GALA DINNER

September 6th, 2016

Place: Rafain Churrascaria

Time: 20:00h to 00:00h

A traditional local course will be served, and guests will also enjoy a great Brazilian show, with dancers and the best Brazilian popular music.

Dress: Smart Casual

* Transportation will be provided leaving the Bourbon Cataratas Hotel at 20:00h.

** Attendance to this reception is included in the registration fee. Extra tickets can be purchased at the Registration desk for R\$ 250,00.



SIDE MEETINGS

MEETING WORKSGROUP 5.7 IFIP

September 4th, 2016

Place: Plenary Room 1

Time: 16:00h to 18:00h

VISITS TO ITAIPU BINACIONAL

Participants registered to APMS 2016 will be able to book a tour to Itaipu Binacional on September 5th and 6th. Places are limited, and the registration can be done in the Registration Desk.

Please see below instructions to the visit:

- The visits leave at 7:00h from the APMS 2016 Registration desk. Please be at the meeting place 15 minutes in advance to not delay the departure of the tour.
- The duration of the visit is approximately 2 hours and 30 minutes.
- It is mandatory the use of closed shoes without heels and clothes with length below the knee during the Technical Visit.
- It is forbidden to enter with bags, backpacks or bags inside the power plant. If necessary, there are lockers for rent. It is allowed to bring cameras, camcorders, mobile phones and notebooks.

OFFICIAL TRAVEL AGENCY

The Official Travel Agency of APMS 2016 is LEVITATUR VIAGENS.

The agency is present during APMS, near the registration desk, to help participants with accommodations, flight tickets and also sell tours through the city of Foz do Iguaçu.

LEVITATUR VIAGENS E TURISMO

Tel.: 55 11 2090 1030 | Fax: 55 11 2090 1039

www.levitatur.com.br

eventos@levitatur.com.br



TOURS

The Official Travel Agency of APMS 2016 is LEVITATUR VIAGENS. They will be available for further information as price, groups, and schedule of the tours. Please see below several options of tours in Foz do Iguaçu. Be sure to visit these incredible places of natural beauty!



CATARATAS - BRAZILIAN SIDE

The tour begins at the Iguazu National Park Visitors Center, and follows the lush vegetation of the park en route to the falls. The trail leading down to the gorge offers a wide view of over 240 different waterfalls. The walkways penetrate the drizzle of Devil's Throat, the biggest jumps. A panoramic lift up the face of the waterfalls that gives access to higher-viewpoint. The Iguazu National Park with the park of Argentina, form the most significant reserve of rainforest in the Southern Cone, declared a Natural World Heritage Site by UNESCO. In return, visit to a craft center.



CATARATAS - ARGENTINA SIDE

Cross Tancredo Neves Bridge with its beautiful view of the Iguazu River Canyon to reach Iguazu National Park in Argentina. Visit the upper walkways that provide a different view of the falls more closely and full nature orchids, bromeliads, birds and wildlife. The culmination of the visit is the lookout suspended the brink in the "Devil Throat" - most of all falls. This tour shows the major sight on the Argentina side.



MACUCO SAFARI

Also at the Iguazu National Park, you will find the Macuco Safari boat. A ride open and towed car, accompanied by expert guide. Runs 2km in the forest at reduced speed, hearing explanations and curiosities of the native fauna and flora. Finishing the passage, a journey on foot is made to reach the banks of the Iguazu River, where it leaves a motor boat, specially prepared that takes tourists to one of the most thrilling rides, where you have a close-up view of the Falls, listening to deafening sound of water. Along the way with emotion, the boat penetrates beneath the waterfall.



BIRD PARK

The Bird Park is located at the entrance of the Iguazu National Park and well integrated nature. The tour is done from inside of immense ponds and trails through lush jungle, where you can shoot and Interact with hundreds of species of birds, snakes, alligators, monkeys and butterflies.

SAFETY

When traveling, as in any major city, take certain precautions. Do not carry valuables such as jewelry, airline tickets, money and important documents with you - it is advisable to leave them in a hotel safe deposit box. In the event, your room key is lost or stolen notify the hotel management as soon as possible.

BANKS

Banks are open weekdays from 10:00h to 16:00h; they are closed on weekends and public holidays.

Automated teller machines (ATMs) can be found almost everywhere; some machines provide 24-hour cash withdrawal (R\$) facilities for major credit cards.

There are ATMs available at the Foz do Iguaçu Airport, one inside Bourbon Hotel (HSBC Bank) and others at the gas station located on the corner of Av. das Cataratas with Av. Iguaçu.

CURRENCY

The Brazilian currency is the Real (R\$); there are 100 centavos in one Real. Brazilian coins come in denominations of 1 centavo (bronze); 5, 10, 25 and 50 centavos (silver) and a R\$ 1,00 coin (nickel and bronze). Bills come in denominations of R\$ 2, R\$ 5, R\$ 10, R\$ 20, R\$ 50 and R\$ 100.

The value of the real against the US dollar varies according to the daily exchange rate. Banks and exchange bureau charge a commission on exchange transactions, so visitors should enquire beforehand. As elsewhere, the rates of exchange for cash and traveler's checks are marginally different, and coins are not exchangeable. Money changers are obliged by law to display net rates of exchange. Receipts for Exchange must be issued by law; it is advisable to keep these until after departure.



ADDITIONAL TRAVEL INFORMATION

Electricity

The voltage is 110 volts in Foz do Iguaçu. Most hotels bathrooms also have a 220-volt socket.

Telecommunications

Adjust your watch when you arrive. Foz do Iguaçu is 3 hours behind Greenwich Mean Time (GMT). Brazil is connected to all appropriate international telephone and satellite communications systems, providing trouble free connections to virtually anywhere in the world. Most hotels provide guest room International Direct Dial (IDD) services; some hotels have in-room internet hook-up and fax machines. Other offers this service through their Concierge or Business Centre.

Outside hotels, long-distance calls can be made from IDD payphones or card phones in various locations. The push-button call-home system, providing an immediate connection to the operator of the country required, is also available. For information about dialing access and IDD phone locations, contact the hotel operator. Not all local calls from private phones are free. However, shops, restaurants, and bars without payphones will usually permit free use of their phones.

Medical Services

Most hotels have immediate access to on call 24-hour medical assistance. There are also many public and private hospitals with 24-hour emergency and out-patient departments. All hotels have a list of recommended medical services.

Restaurant Tipping

When dining out, most establishments include a 10% service charge on the bill. However, it is customary to leave a little extra for good service.

Water

The water supply in Foz do Iguaçu conforms to international standards. Nevertheless, it is advisable to drink only mineral water.

Climate

The climate in Foz do Iguaçu is humid subtropical, reaching in summer temperature above 45 ° C in winter and reach a temperature below 5 ° C.

Insurance

It is strongly recommended that participants take out the adequate cover for health, travel and private liability insurance. The organizers cannot accept responsibility for personal injury, loss or damage to private property belonging to the symposium participants and accompanying persons.

PROMOTION



SPONSOR



Time / Date	September 3 rd	September 4 th	September 5 th					
		ROOM 1	ROOM 1	ROOM 2	ROOM 3			
8:00 - 8:30		Doctoral Workshop	Registration					
8:30 - 9:00								
9:00 - 9:30			Opening Session					
9:30 - 10:00			Keynote Lecture 1 Jose Serrador The Embraer Case					
10:00 - 10:30			Coffee break					
10:30 - 11:00			Coffee break	Session 2 Intelligent Manufacturing Systems				
11:00 - 11:30		Doctoral Workshop	Session 1 Computational Intelligence in Production Management			Session 3 Special session Lean manufacturing		
11:30 - 12:00			Lunch					
12:00 - 12:30						Lunch		
12:30 - 13:30								
13:30 - 14:00	Doctoral Workshop							
14:00 - 14:30					Keynote Lecture 2 Henrique Luiz Correa Global supply chain management: Past, present and future	Session 6 Special session Cyber-physical (IIoT) technology deployments in Smart Manufacturing Systems, an SM & CPPS SIG workshop session		
14:30 - 15:00								
15:00 - 15:30					Session 4 Knowledge-based PLM - 1			Session 5 Modelling of Business and Operational Processes - 1
15:30 - 16:00								
16:00 - 16:30	Registration	Meeting Worksgroup 5.7 IFIP	COFFEE BREAK					
16:30 - 17:00			Session 7 Knowledge-based PLM - 2	Session 8 Modelling of Business and Operational Processes - 2	3 rd IFIP WG5.7 Research Workshop			
17:00 - 17:30								
17:30 - 18:00								
18:00 - 18:30								
18:30 - 19:00								
19:00 - 19:30	Welcome Reception							
19:30 - 20:00								
20:00 - 20:30								
20:30 - 21:00								

September 6 th			September 7 th		Time / Date
ROOM 1	ROOM 2	ROOM 3	ROOM 1	ROOM 2	
Registration			Registration		8:00 - 8:30
			8:30 - 9:00		
Keynote Lecture 3 Itaipu Binacional: Managing change towards sustainability Rosimeri Fauth Ramadas Martins			9:00 - 9:30		
			9:30 - 10:00		
Coffee break					10:00 - 10:30
Session 9 Virtual, Digital & Smart Factory	Session 11 Large-scale supply chains	Session 13 Quality in production management - 2	Session 20 Special Session Advances in Cleaner Production	Session 21 Sustainable production management - Which approaches work in practice? - 1	10:30 - 11:00
Session 10 Flexible, sustainable supply chains	Session 12 Sustainable Manufacturing				11:00 - 11:30
					11:30 - 12:00
Lunch			Lunch		12:00 - 12:30
					12:30 - 13:00
Poster Session 1			Poster Session 2		13:30 - 14:00
Session 14 Collaborative systems	Session 15 Innovation and collaborative networks	Session 16 Special session Smart Manufacturing System Characterization, an SM & CPPS SIG workshop session	Session 22 Special session Operations management in Engineer-to Order manufacturing	Session 23 Sustainable production management - Which approaches work in practice? - 2	14:00 - 14:30
					14:30 - 15:00
					15:00 - 15:30
Coffee break			Coffee break		15:30 - 16:00
Session 17 Quality in production management	Session 18 Special Session Knowledge management in production systems	Session 19 Special session Service-oriented Architecture for Smart Manufacturing System, an SM & CPPS SIG workshop session	Session 24 Agrifood supply chains	Session 25 Production economics	16:00 - 16:30
					16:30 - 17:00
					17:00 - 17:30
Special session A Bottom-up Special session - Knowledge Base Development for Smart Manufacturing, an SM & CPPS SIG workshop session	Special session B Implications of multi- stage manufacturing process chains on Smart Manufacturing, an SM & CPPS SIG workshop session		Closing Ceremony		17:30 - 18:00
					18:00 - 18:30
					18:30 - 19:00
					19:00 - 19:30
					19:30 - 20:00
					20:00 - 20:30
Gala Dinner 20:00 - 00:00					20:30 - 21:00

WORKSHOP

3rd IFIP WG5.7 Research Workshop

September 5th, 2016

17h00 - 19h30

Room 3

Organizers:

Hermann Lödding - Hamburg University of Technology

Gregor von Cieminski - ZF Friedrichshafen AG, Secretary of IFIP WG5.7

Presenters:

Paolo Gaiardelli - University of Bergamo

Ricardo Rabelo - Federal University of Santa Catarina

Hermann Lödding - Hamburg University of Technology

DOCTORAL WORKSHOP

September 4th, 2016

8:00 - 15h30

Plenary Room 1

Chairs:

João Gilberto Mendes dos Reis - Universidade Paulista

Marcia Terra da Silva - Universidade Paulista

08:00

08:30

Doctoral Workshop Opening / Introduction

08:30

09:15

(276) Cyber-Physical Systems in Manufacturing. Benefits and obstacles to their implementation: two side of the same coin

Author: Anna de Carolis - Politecnico di Milano

Student Discussant: Rodrigo Carlo Toloi

09:15

10:00

(274) The Production Transfer Process

Author: Maria Flavia Mogos - Norwegian University of Science and Technology

Student Discussion: Walter Cardoso Sátyro

10:00

10:30

COFFEE BREAK

10:30

11:15

(263) Brazil's Soybean Supply Chain: Developing a competitiveness model based on decision-making, enterprise relationship, logistics, and sustainability

Author: Rodrigo Carlo Toloi - Paulista University-UNIP

Student Discussion: Sven-Vegard Buer

11:15

12:00

(262) Advantages of Bim Tools into Civil Construction Brazilian Design Processes

Author: Samuel Dereste dos Santos - Paulista University-UNIP

Student Discussant: Sayyed Shoaib ul Hasan

12:00

13:15

LUNCH

13:15

14:00

(269) Pursuit of responsiveness in production environments: Towards building plant level capabilities

Author: Sayyed Shoaib ul Hasan - Politecnico di Milano

Student Discussion: Maria Flavia Mogos

14:00

14:45

(270) Lean Manufacturing in High-Mix, Low-Volume Production Environments

Author: Sven-Vegard Buer - Norwegian University of Science and Technology

Student Discussion: Samuel Dereste dos Santos

14:45

15:30

(193) Strategic Factors to Obtain Competitive Advantage in Industries that Compete in Environmental Sustainability

Author: Walter Cardoso Sátyro - Paulista University-UNIP

Student Discussion: Anna de Carolis

SCIENTIFIC PROGRAM

September 5th, 2016

09:00
09:30
Plenary
Room 1

OPENING SESSION

09:30
10:30
Plenary
Room 1

KEYNOTE LECTURE 1

The Embraer Case

Session Chair: Pedro Luiz Oliveira Neto

Jose Serrador - Embraer

CV: José Serrador Neto is a Production Engineer graduated from Pontifícia Universidade Católica do Rio de Janeiro (PUC-RJ), holding a postgraduate degree on International Trade Law and Economics from Fundação Getúlio Vargas in São Paulo. He joined Embraer in 2000 as an advisor to the VP External Relations, and since then has been working in that field.

He is currently Director of External Relations at Embraer, headquartered in Brasília and holding responsibilities on Domestic Public Policy Issues and International Trade, such as Tax, Sector Regulations, Logistics, besides International Litigation at the WTO, European Union, and the OECD negotiations.

In 2009, he was elected Director of the Aerospace Industries Association of Brazil (AIAB) and since then represents the Aerospace and Defense sectors in various industry business associations, think tanks, in particular the Brazilian National Confederation of Industry (CNI).

His professional career includes positions as Government Relations at Xerox in Brazil, Arthur Andersen Business Consulting and several publications on Trade Policy. In 2008, he was appointed as Brazilian representative at the Global Leadership Seminar by the University of Georgetown (Washington, D.C.) and awarded with the Order of Aeronautical Merit by the Brazilian Air Force (2013, Brasília).

11:00
12:30
Plenary
Room 1

ORAL SESSION 01

Computational Intelligence in Production Management

Session Chair: Rodrigo Gonçalves

- | | |
|---------------|---|
| 11:00 - 11:15 | (114) Determination of operating parameters and performance analysis of computer networks with Paraconsistent Annotated Evidential Logic Et
<i>Avelino Palma Pimenta Junior</i> |
| 11:15 - 11:30 | (155) Logical Decision-Making method relating to Innovation Management
<i>Nelio Fernando dos Reis</i> |
| 11:30 - 11:45 | (156) IT Incident Management and analysis using Non-Classical Logics
<i>Priscila Facciolli Tavares</i> |
| 11:45 - 12:00 | (186) Paraconsistent Decision Making for Intelligent Traffic Control
<i>Eduardo Prudente Dacorso</i> |
| 12:00 - 12:15 | (212) Hierarchical clustering based on reports generated by script Lattes
<i>Wonder Alexandre Luz Alves</i> |
| 12:15 - 12:30 | (231) Using Logic Concepts on Six Sigma
<i>Caique Zaneti Kirilo</i> |

11:00
12:30
Room 2

ORAL SESSION 02

Intelligent Manufacturing Systems

Session Chair: Matti Majuri

- | | |
|---------------|---|
| 11:00 - 11:15 | (123) Toward a Semantically Enriched Modelling Environment for Dynamic Systems
<i>Damiano Nunzio Arena</i> |
| 11:15 - 11:30 | (217) Formal Information Model for Representing Production Resources
<i>Eeva Järvenpää</i> |
| 11:30 - 11:45 | (242) A communication procedure between tactical and operational levels in spare parts supply chains
<i>Matheus Cardoso Pires</i> |
| 11:45 - 12:00 | (267) Digital Factories for Capability Modeling and Visualization
<i>Farhad Ameri</i> |
| 12:00 - 12:15 | (259) Learning Analytics deployment at a University
<i>Elisangela Monaco Moraes</i> |
| 12:15 - 12:30 | (258) Relationship networks: Social innovation and earnings for companies
<i>Marcelo Tsuguio Okano</i> |

11:00
12:30
Room 3

ORAL SESSION 03

Special session - Lean manufacturing

Session Chairs: Masaru Nakano and Christoph Roser

- | | |
|---------------|---|
| 11:00 - 11:15 | (103) Supermarkets vs. FIFO Lanes - A Comparison of Work-in-Process Inventories and Delivery Performance
<i>Denis Wiese</i> |
| 11:15 - 11:30 | (110) Lean Manufacturing and Sustainability: an integrated view
<i>Barbara Resta</i> |
| 11:30 - 11:45 | (137) Direction of the Bottleneck in Dependence on Inventory Levels
<i>Carolin Romeser</i> |
| 11:45 - 12:00 | (172) Commercial Vehicle Production Flexibility Factors
<i>Luis de Oliveira Nascimento</i> |
| 12:00 - 12:15 | (224) Mapping a Value Stream with the Perspective of Sustainability
<i>Veronica Lindström</i> |
| 12:15 - 12:30 | (184) Managing the Socially and Environmentally Sustainable Global Manufacturing Network
<i>Paul Schönsleben</i> |

14:00

Global supply chain management: Past, present and future

15:00

Session Chair: Marcia Terra da Silva

Plenary

Room 1

Henrique Luiz Correa

Briefing: A broad perspective of the field throughout time, a discussion about the state of the art and an outlook for the future of research and practice of global supply chain management

CV: Professor of Operations and Supply Chain Management at Rollins College - Crummer Graduate School of Business, since 2006. Awarded in 2011/2012 the prestigious Rollins College Bornstein Faculty Scholarship Award and various awards for excellence in teaching, Professor Correa previously taught at the Fundacao Getulio Vargas Business School, São Paulo, Brazil (1998-2006), the leading business school in Brazil and at the University of São Paulo (Escola Politécnica), the leading University, also in Brazil (1986-1996). He has also served and serves visiting appointments at MIP Business School, Politecnico di Milano (Italy), FIA Business School (Brazil), Porto Business School (Portugal), the University of Warwick (UK), IESA (Venezuela), INCAE (Costa Rica), University of Texas at San Antonio (USA), IE Business School (Spain), Fundação Dom Cabral (Brazil), Federal University of Rio de Janeiro (Brazil), among other institutions. His research interests include global supply chain management and flexible operations.

15:00

ORAL SESSION 04

16:30

Knowledge-based PLM - 1

Plenary

Session Chair: David Romero

Room 1

15:00 - 15:15

(188) Environmental support for dilution of pollutants from broiler production and aquaculture in Brazil*Silvia Helena Bonilla*

15:15 - 15:30

(189) Water usage charge in Brazil: emergy donor-side approach for calculating water costs*Silvia Helena Bonilla*

15:30 - 15:45

(112) Combining Genetic Algorithm with Constructive and Refinement Heuristics for Solving the Capacitated Vehicle Routing Problem*Stanley Jefferson de Araujo Lima*

15:45 - 16:00

(268) Container crane controller with the use of a NeuroFuzzy Network*Ricardo Ferreira*

16:00 - 16:15

(127) Agility Challenges in Finnish Manufacturing Companies - Manufacturing Operations Management Viewpoint*Eeva Järvenpää*

16:15 - 16:30

(161) Improving Process Management in a Water Treatment Plant Using Control Modelling*Cleber Gustavo Dias*

15:00
16:30
Room 2

ORAL SESSION 05

Modeling of Business and Operational Processes - 1

Session Chairs: Jair Minoro Abe and Vittal Prabhu

- | | |
|---------------|--|
| 15:00 - 15:15 | (106) Strategic Portfolios for the Integral Design of Value-added Networks
<i>Paul Schoensleben and Manuel Rippel</i> |
| 15:15 - 15:30 | (119) Selecting a Notation to Modeling Business Process: a Systematic Literature Review of Technics and Tools
<i>Marcelo Bernardino Araújo</i> |
| 15:30 - 15:45 | (122) Workforce Planning Models for Distribution Center Operations
<i>Vittaldas Prabhu</i> |
| 15:45 - 16:00 | (144) From English to RDF - A Meta-modeling Approach for Predictive maintenance knowledge base design
<i>Ana Milicic</i> |
| 16:00 - 16:15 | (166) An Application of Operation Research for Reducing Fuel Costs
<i>Joao Roberto Maiellaro</i> |
| 16:15 - 16:30 | (241) The profile of high-tech start-ups: An approach by graphical analysis of the prism on relations in networks
<i>Diego Dias Rodrigues</i> |

15:00
16:00
Room 3

ORAL SESSION 06

Special session - Cyber-physical (IIoT) technology deployments in Smart Manufacturing Systems, an SM & CPPS SIG workshop session

Session Chair: Stefan Weisner

- | | |
|---------------|--|
| 15:00 - 15:15 | (130) The Operator 4.0: Human Cyber-Physical Systems & Adaptive Automation towards Human-Automation Symbiosis Work Systems
<i>David Romero</i> |
| 15:15 - 15:30 | (223) Supporting the Requirements Elicitation Process for cyber-physical Product-Service Systems through a gamified Approach
<i>Stefan Wiesner</i> |
| 15:30 - 15:45 | (247) Application of Core Technologies for Smart Manufacturing: A Case Study on Cost Benefit Analysis based on Modelling and Simulation for Sustainability
<i>Chanmo Jun</i> |
| 15:45 - 16:00 | (191) Virtual Factory Supporting Production Planning and Control
<i>Deogratias Kibira</i> |

17:00
18:30
Plenary
Room 1

ORAL SESSION 07

Knowledge-based PLM - 2

Session Chair: Fabio Papalardo

- | | |
|---------------|---|
| 17:00 - 17:15 | (222) An integrative model of productivity and logistic objectives
<i>Robert Glöckner</i> |
| 17:15 - 17:30 | (232) Pursuit of responsiveness in SMEs through dynamic allocation of flexible workers: a simulation study
<i>Sayyed Shoaib ul Hasan</i> |
| 17:30 - 17:45 | (240) Effectiveness of Production Planning and Control (PPC) in a Baby Fashion Cluster, under the prism of Paraconsistent Logic
<i>Elizangela Maria Menegassi de Lima</i> |
| 17:45 - 18:00 | (256) Dynamic Seed Genetic Algorithm to Solve Job Shop Scheduling Problems
<i>Flávio Grassi</i> |
| 18:00 - 18:15 | (216) An Improved Computer-Aided Process Planning Method Considering Production Scheduling
<i>Eiji Morinaga</i> |
| 18:15 - 18:30 | (225) The Identification of the Professional Profile that uses Canvas Approach
<i>Irapuan Gloria Junior</i> |

17:00
18:30
Room 2

ORAL SESSION 08

Modeling of Business and Operational Processes - 2

Session Chairs: Vittal Prabhu and Jair Minoro Abe

- | | |
|---------------|--|
| 17:00 - 17:15 | (214) Business Modeling Toward Competitiveness and Ciborra's Criticism: Results from an IT-Business Strategic Alignment via an Action-Research
<i>Nemer Alberto Zaguir</i> |
| 17:15 - 17:30 | (219) AHP modeling and sensitivity analysis for evaluating the criticality of software programs
<i>Adriana Cristina Aipp da Cunha</i> |
| 17:30 - 17:45 | (230) A comparative analysis between BPMN and ISO 19440 language constructs
<i>Angela Teresa Rochetti</i> |
| 17:45 - 18:00 | (194) Adaptive configuration of the organization in manufacturing startup companies
<i>Christina Reuter</i> |
| 18:00 - 18:15 | (200) Support Policies and Collective Efficiency in a Furniture Cluster
<i>Elizangela Maria Menegassi de Lima</i> |
| 18:15 - 18:30 | (199) Applying the Paraconsistent Annotated Evidential Logic Et in a Solar Tracker for Photovoltaic Panels
<i>Álvaro André Colombero Prado</i> |

17:00
19:30
Room 3

WORKSHOP

3rd IFIP WG5.7 Research Workshop

Organizers:

Hermann Lödding - Hamburg University of Technology
Gregor von Cieminski - ZF Friedrichshafen AG, Secretary of IFIP WG5.7

Presenters:

Paolo Gaiardelli - University of Bergamo
Ricardo Rabelo - Federal University of Santa Catarina
Hermann Lödding - Hamburg University of Technology

SCIENTIFIC PROGRAM

September 6th, 2016

09:00
10:00
Plenary
Room 1

KEYNOTE LECTURE 3

Itaipu Binacional: Managing change towards sustainability

Session Chair: João Gilberto Mendes

Rosimeri Fauth Ramadas Martins

Briefing: The Itaipu dam, a world leader in clean and renewable energy, is an iconic infrastructure between two countries that requires 3000 staff and \$150M of spend with suppliers per year. The vision and strong commitment to the top management triggered a structured program SUSTAINABLE PROCUREMENT in which everybody has a role to play.

CV: Rosimeri Fauth Ramadas Martins is a Business Administrator with over 30 years of experience in procurement and public biddings. 10 years of experience in managing people, processes, and systems as Chief Procurement Officer. In her role as CPO, Rosimeri manages all national, bi-national and international bidding and procurement processes, coordinating all procurement activities to ensure the effectiveness of processes and systems to meet the expectations of the different areas integrating the ITAIPU BINACIONAL, the CFO, and CEO, efficiently and transparently. Among other projects within her CPO activities, Rosimeri implemented an Electronic Procurement System, with emphasis on national, bi-national and international Reverse Auctions. She also developed a Sustainable Procurement Program which is being effectively used since 2013, as well as a Supplier Development Program. As a strategist with extensive experience in managing people, Rosimeri manages 90 people, Brazilians, and Paraguayans, in 4 different cities (Curitiba, Asuncion, Ciudad del Este and Foz de Iguazu) in which ITAIPU BINACIONAL has offices.

10:30
11:00
Plenary
Room 1

ORAL SESSION 09

Virtual, Digital & Smart Factory

Session Chair: Paolo Gaiardelli

- | | |
|---------------|---|
| 10:30 - 10:45 | (238) Reflections on Smart Industry: the paradox of Theseus' ship and beyond
<i>Hans Wortmann</i> |
| 10:45 - 11:00 | (140) The importance of timely feedback to interactivity in Online Education
<i>Esdras Jorge Santos Barboza</i> |

11:15
12:00
Plenary
Room 1

ORAL SESSION 10

Flexible, Sustainable Supply Chains

Session Chair: Feni D. R. Agostinho

- | | |
|---------------|--|
| 11:15 - 11:30 | (233) Assessment of structural qualities of production systems
<i>Matthias Heinicke</i> |
| 11:30 - 11:45 | (252) The introduction process of low-volume products: challenges and potentials of information management
<i>Siavash Javadi</i> |
| 11:45 - 12:00 | (253) Sustainability practices diffusion: the role of buying firms from the perspective of diffusion of innovation theory
<i>Handson Pimenta</i> |

10:30

11:30

Room 2

ORAL SESSION 11**Large-scale supply chains**

Session Chairs: Marcel Okano and Robert Waker

10:30 - 10:45

(179) A simulation based approach to investigate the procurement process and its effect on the performance of supply chains*Daniel Pause*

10:45 - 11:00

(182) Sensor Triggered Replacement of Spare Parts: Customer Service Process Innovation*Gabriela Lais Rozati*

11:00 - 11:15

(254) Impact of Raw Material Commoditization on Supply Chains*Siavash Khajavi*

11:15 - 11:30

(133) Simulation and optimization models in a business game for decision-making in logistics processes*Marco Aurelio Butzke*

11:30

12:00

Room 2

ORAL SESSION 12**Sustainable Manufacturing**

Session Chair: Cecilia M.V.B. Almeida

11:30 - 11:45

(239) Human-Centric Manufacturing Workplaces: aiming at increasing attractiveness and user experience*Marco Taisch*

11:45 - 12:00

(280) Comparing Techniques for Selecting Automation Technology*Erlend Alfnes*

10:30

12:00

Room 3

ORAL SESSION 13**Quality in Production Management - 2**

Session Chairs: Pedro Luiz Oliveira Neto

10:30 - 10:45

(176) Customization process of the process for the development of embedded components for the aerospace industry*Magda Aparecida Silvério Miyashiro*

10:45 - 11:00

(177) Base and Extended One-Dimensional Warranties Analyses for Remanufactured Products*Ammar Y. Alqahtani*

11:00 - 11:15

(128) Sustainable Economic Development and High-Quality Engineering Education*Vitor Mendes Caldana*

11:30 - 11:30

(260) Evaluation of Additive Manufacturing Processes in Fabrication of Personalized Robot*Shushu Wang*

11:30 - 11:45

(281) Retail Tactical Planning: An Aligned Process?*Kasper Kiil*

11:45 - 12:00

(283) Capability maturity model for engineering change management in ETO environment*Erlend Alfnes*

13:30
14:00
Poster
Area

POSTER SESSION 1

Session Chairs: Bruno A. Rodrigues Filho and William Machado Emiliano
(the list of the posters are at page 33)

14:00
15:30
Plenary
Room 1

ORAL SESSION 14

Special session - Smart Manufacturing System Characterization, an SM & CPPS SIG workshop session

Session Chair: Márcia Terra da Silva

- | | |
|---------------|---|
| 14:00 - 14:15 | (178) System Thinking and Business Model Canvas for collaborative business models design
<i>Sergio Gustavo Medina Pereira</i> |
| 14:15 - 14:30 | (192) An Investigation to Manufacturing Analytical Services Composition using the Analytical Target Cascading Method
<i>Kai-Wen Tien</i> |
| 14:30 - 14:45 | (115) Systems ERP/BSC in Production/Operations Management: An Analysis of Results by Companies
<i>Celso Affonso Couto</i> |
| 14:45 - 15:00 | (180) Toward a Matching Approach to Support CBM (Collaborative Business Model) Processes between Regional Entrepreneurs within the RIS3 Policy
<i>Jérémie Faham</i> |
| 15:00 - 15:15 | (249) Location of Office, a Strategy for Legal Logistics
<i>Cicero Tadeu Tavares Duarte</i> |
| 15:15 - 15:30 | (257) RFID integration for material management considering engineering changes in ETO industry
<i>Quan Yu</i> |

14:00
15:30
Room 2

ORAL SESSION 15

Innovation and Collaborative Networks

Session Chair: Robert Waker

- | | |
|---------------|--|
| 14:00 - 14:15 | (136) Improving the sustainability of SOA providers' networks via a collaborative process innovation model
<i>João Ferreira Santanna-Filho</i> |
| 14:15 - 14:30 | (158) Theoretical models to classify the type of interorganizational networks in productive systems
<i>Marcelo Tsugio Okano</i> |
| 14:30 - 14:45 | (196) Business model innovation in state-owned and private-owned enterprises in China
<i>Yan Li</i> |
| 14:45 - 15:00 | (273) Analysis of Inter-firm Co-operation in Joint Research and Development Projects
<i>Matti Majuri</i> |
| 15:00 - 15:15 | (146) Economic and Environmental Advantages of Rubber Recycling
<i>Henrricco Nieves Pujol Tucci</i> |
| 15:15 - 15:30 | (229) Sustainable Development Within Enterprise Architecture
<i>Daniel F. R. Alves</i> |

14:00
14:45
Room 3

ORAL SESSION 16**Special session - Smart Manufacturing System Characterization, an SM & CPPS SIG workshop session**

Session Chair: Serm Kulvatunyou

- | | |
|---------------|--|
| 14:00 - 14:15 | (198) Applications of the Factory Design and Improvement Reference Activity Model
<i>SangSu Choi</i> |
| 14:15 - 14:30 | (261) An Overview of a Smart Manufacturing System Readiness Assessment
<i>Kiwook Jung</i> |
| 14:30 - 14:45 | (244) Applying gamification for developing formal knowledge models: challenges and requirements
<i>Klaus-Dieter Thober</i> |

16:00
17:15
Plenary
Room 1

ORAL SESSION 17**Quality in production management**

Session Chair: Pedro Luiz Oliveira Neto

- | | |
|---------------|--|
| 16:00 - 16:15 | (149) Influence of Quality and Productivity on Milk Production Sustainability: from an Anthropocentric to an Ecocentric View
<i>Max Wilson Oliveira</i> |
| 16:15 - 16:30 | (138) Innovation and Quality
<i>Pedro Luiz de Oliveira Costa Neto</i> |
| 16:30 - 16:45 | (145) Health Tourism as an Inducer of Economic and Social Development in Teresina City
<i>Reinaldo Araujo Lopes</i> |
| 16:45 - 17:00 | (174) Mitigating Serialization and Traceability, an Implementation and Suitability Study about Strategies of RDC nº. 54 of 2013
<i>André Gomes de Lira Muniz</i> |
| 17:00 - 17:15 | (264) Theoretical Framework of Performance Indicators with BSC for the Private Higher Education Institution
<i>Àtila de Melo Lira</i> |

16:00
17:00
Room 2

ORAL SESSION 18**Special Session-Knowledge management in production systems**

Session Chair: Jorge Muniz Junior

- | | |
|---------------|--|
| 16:00 - 16:15 | (129) Workers' perspective about Organizational Climate in Knowledge Management: automotive assembly-line case
<i>Indira Arias Rodriguez</i> |
| 16:15 - 16:30 | (157) ERP Software Quality using Paraconsistent Logic
<i>Priscila Faccioli Tavares</i> |
| 16:30 - 16:45 | (185) A Structured Outsourcing Procedure
<i>Maria Flavia Mogos</i> |
| 16:45 - 17:00 | (221) The need for Knowledge Management when Backsourcing is embraced
<i>Bella Belerivana Nujen</i> |

16:00
16:45
Room 3

ORAL SESSION 19

Special session - Service-oriented Architecture for Smart Manufacturing System, an SM & CPPS SIG workshop session

Session Chairs: Yan Lu and Sanjeev Srivastava

16:00 - 16:15 **(234) Industrial IoT Gateway with Machine Learning for Smart Manufacturing**
Martin Miskuf

16:15 - 16:30 **(248) The Paradigm Shift in Smart Manufacturing System Architecture**
Yan Lu

16:30 - 16:45 **(255) A Hybrid Method for Manufacturing Text Mining Based on Document Clustering and Topic Modeling Techniques**
Farhad Ameri

17:30
19:00
Plenary
Room 1

SPECIAL SESSION A

Bottom-up Special session - Knowledge Base Development for Smart Manufacturing, an SM & CPPS SIG workshop session

Session Chairs: Serm Kulvatunyou and Farhad Ameri

17:30
19:00
Room 2

SPECIAL SESSION B

Implications of multi-stage manufacturing process chains on Smart Manufacturing, an SM & CPPS SIG workshop session

Session Chair: Klaus-Dieter Thoben

SCIENTIFIC PROGRAM

September 7th, 2016

10:30
11:45
Plenary
Room 1

ORAL SESSION 20

Special Session- Advances in Cleaner Production

Session Chairs: Biagio F. Giannetti and Ginevra L. Lombardi

-
- | | |
|---------------|---|
| 10:30 - 10:45 | (109) A Thermal System Based on Controlled Entropy for Treatment of Medical Waste by Solar Energy
<i>Nilo Costa Serpa</i> |
| 10:45 - 11:00 | (120) Analysis of Polyethylene Terephthalate Production Chain: an Approach Based on the Emergy Synthesis
<i>Gustavo Adolfo Bustamante</i> |
| 11:00 - 11:15 | (121) Urban Solid Waste: An analysis of energy recovery efficiency three different treatment systems in Brazil
<i>Geslaine Frimaio</i> |
| 11:30 - 11:30 | (125) Naphtha Production Assessment from the Perspective of the Emergy Accounting
<i>Gustavo Adolfo Bustamante</i> |
| 11:30 - 11:45 | (150) Energy Efficiency and Global Warming Potential of a Wind-Energy Complex at Brazilian Piauí State
<i>Feni Agostinho</i> |
-

10:30
12:00
Room 2

ORAL SESSION 21

Sustainable production management - Which approaches work in practice? - 1

Session Chair - Gregor Von Cieminski

-
- | | |
|---------------|--|
| 10:30 - 10:45 | (141) Effects of climate change on the Brazilian broiler meat production chain
<i>Robert Ari Waker</i> |
| 10:45 - 11:00 | (107) Production Planning and Control: the Dissemination Tool of the Operation Strategy
<i>Walter Cardoso Satyro</i> |
| 11:00 - 11:15 | (111) Solar Water Heating: Possibilities of Use in Industrial Processes in Brazil
<i>Etevaldo Francisco Carreira Junior</i> |
| 11:30 - 11:30 | (113) Strategic Factors to Obtain Competitive Advantage in Industries that Compete in Environmental Sustainability
<i>Walter Cardoso Satyro</i> |
| 11:30 - 11:45 | (183) Approaches for the Integration of the Social and Environmental Dimensions of Sustainability in Manufacturing Companies
<i>Felix Friemann</i> |
| 11:45 - 12:00 | (226) An Emergy Environmental Accounting-Based Study of Different Biofuel Production Systems
<i>Maria de Fátima de Freitas Bueno</i> |
-

13:30
14:00
Poster
Area

POSTER SESSION 2

Session Chairs: Bruno A. Rodrigues Filho and William Machado Emiliano
(the list of the posters are at page 34)

14:00
15:30
Plenary
Room 1

ORAL SESSION 22

Special session - Operations management in Engineer-to-Order manufacturing

Session Chair: Erlend Alfnes

- | | |
|---------------|--|
| 14:00 - 14:15 | (190) Buyer-Supplier Information Sharing in ETO
<i>Erlend Alfnes</i> |
| 14:15 - 14:30 | (206) Developing Supplier Strategies for ETO Companies: A Case Study
<i>Mikhail Shlopak</i> |
| 14:30 - 14:45 | (208) Categorizing Engineer-To-Order Companies through their Project Execution Strategy
<i>Kristina Kjersem</i> |
| 14:45 - 15:00 | (235) Improving planning process for ETO-projects: a case study
<i>Kristina Kjersem</i> |
| 15:00 - 15:15 | (265) A Framework for Lean Flow in Turbulent High-Variety Low-Volume Manufacturing Environments
<i>Erlend Alfnes</i> |
| 15:15 - 15:30 | (282) Prescriptive Cost Management for Lean Supply Chains: Extending Inter-Organizational Cost Management through Ratio Project Planning
<i>Paulo Sérgio Lima Pereira Afonso</i> |

14:00
15:30
Room 2

ORAL SESSION 23

Sustainable production management - Which approaches work in practice? - 2

Session Chair: Gregor Von Cieminski

- | | |
|---------------|---------------|
| 14:00 - 15:30 | Debate |
|---------------|---------------|

16:00
17:30
Plenary
Room 1

ORAL SESSION 24

Agrifood supply chains

Session Chairs: João Gilberto Mendes and Silvia Bonilla

- | | |
|---------------|---|
| 16:00 - 16:15 | (126) Effects of Price and Transportation Costs in Soybean Trade
<i>João Gilberto Mendes dos Reis</i> |
| 16:15 - 16:30 | (197) Effects of Logistics Variables in the Volume of Soybean Transported by Routes of Exportation of Mato Grosso state, Brazil
<i>Arcione Ferreira Viagi</i> |
| 16:30 - 16:45 | (169) Does the VHP Sugar Price Influence in the Ethanol Volume Production?
<i>Edison Sotolani Claudino</i> |
| 16:45 - 17:00 | (243) Performance Assessment for a Sustainable Supply Chain at Local Level
<i>Leticia Prevez</i> |
| 17:00 - 17:15 | (134) Food Supply Chain - Sustainability in Small Milk Industry
<i>Arcione Ferreira Viagi</i> |
| 17:15 - 17:30 | (105) Post-harvest soybean loss during truck transport: A Case Study of Piauí State, Brazil
<i>Irenilza A. Nääs</i> |

16:00

17:00

Room 2

ORAL SESSION 25

Production economics

Session Chairs: Matheus Cardoso Pires and Kiritsis Dimitris

16:00 - 16:15

(207) Cost modelling approach for the source specific evaluation of alternative manufacturing networks

Jan-Philipp Prote

16:15 - 16:30

(151) Measuring the economic impact of metrological frauds in trade metrology using an Input-Output Model

Bruno Amado Rodrigues Filho

16:30 - 16:45

(160) Effects of Transport Infrastructure in Economic Development

José Alberto Alencar Luz

16:45 - 17:00

(143) Contributions of the Program Inovar-Auto to the automotive manufacturers in Brazil

Nivaldo Palmeri

16:00

17:30

Plenary

Room 1

CLOSING CEREMONY

The Burbidge Awards

The Mario Garetti Award

The presentation of the APMS 2017

Board: 01

(201) Paraconsistent Logical Controller At - Open Source Platform Arduino

Genivaldo Carlos Silva

Board: 02

(101) Towards a More Sustainable Passenger Transport: Management of Disutility Related to Environmental Impacts

Helcio Raymundo

Board: 03

(147) Intelligence Activities in the São Paulo State Police: investments x results

Herbert Goncalves Espuny

Board: 04

(162) Utilization of the Milk Run Method at the Production Chain of the Brazilian Vehicle Industry - Its Efficiency According to the Optics of Annotated Paraconsistent Logic

Fabio Papalardo

Board: 05

(170) Application of Paraconsistent Logic to Assess Falling Risks Factors in the Elderly

Fábio de Araújo Leite

Board: 06

(175) FEASIBILITY ASSESSMENT IN DRUG SCREENING USING NON-CLASSICAL LOGICS

André Gomes de Lira Muniz

Board: 07

(204) Network design for Reverse Logistic

Alexandre Arnaldo Boschi

Board: 08

(209) The Modeling of Processes in Elaboration of Telecommunication Network Projects for Sharing of Poles in Piauí

Jaciara Carvalho de Sousa Oliveira

Board: 09

(237) Indicators of environmental performance of Eletrobras: Analyzing the use of resources of the electricity consumption in the State of Piauí

Jaciara Carvalho de Sousa Oliveira

Board: 10

(213) Paraconsistent Business Simulator in the Industrial Sector

Thais Rodrigues Ibiapino

Board: 11

(218) Engineering requirements for Big Data projects: Use case of a project for dengue outbreak prediction

Marcelo Aparecido Carlos

Board: 12

(228) The influence of DevOps practices in IT management processes according to COBIT 5

Ivanir Costa

Board: 13

(236) Low Cost Electronic Device for People with Disabilities in Poor Areas of Brazil based on Paraconsistent Logic

Marcello Anderson Melo Buonafina

Board: 14

(275) Legal Risk Analysis based on the Paraconsistent Annotated Evidential Logic Et

Liliam Sayuri Sakamoto

Board: 15

(277) Income-Weighted Life-Cycle Cost Model: an Application to the Case of Electric versus Diesel Buses

William Machado Emiliano

Board: 01

(108) Green Industries: The Implementation Process of the Business Strategy on the Shop Floor

Enio Antonio Ferigato

Board: 02

(116) Knowledge Management as integration tool for Organizational Sustainability

Marcos de Oliveira Moraes

Board: 03

(131) Critical analysis of the metamorphosis of 5S philosophy occurred in the change of the model of Mass Production to Lean Production and its developments in the Brazilian context

Ulysses Martins Moreira Filho

Board: 04

(139) Desalination of seawater for use in residential condominiums or small cities of coastal enterprises.

Marcos Moraes

Board: 05

(148) Measuring quality in the Brazilian milk supply chain: a study of the biological aspects as the quality differentiator for bonus payment

Marcelo Tsuguio Okano

Board: 06

(154) Using Emergy Accounting to Assess Use and Underuse of Natural Infrastructure Resources by Educational Systems: a Case Study.

José Hugo de Oliveira

Board: 07

(159) Environmental Accounting for conventional strawberry production management.

Carlos Cezar da Silva

Board: 08

(163) The necessity of customization of mobile device interfaces for elderly people

Franciele Alves dos Santos Medina

Board: 09

(164) Human Capital and Innovation: A Furniture Cluster in Brazil

Elizangela Maria Menegassi de Lima

Board: 10

(165) Cashew Apple Juice Production in Piauí State: An exploratory case study

Thais Rodrigues Ibiapino

Board: 11

(171) The Gross National Happiness Assessment in a São Paulo Community

Rose Reis de Souza

Board: 12

(215) Logistical study to commercial point of opening the retail chain electronics

Luiz Lozano

Board: 13

(227) Exploring the viability of biodiesel use in a Brazilian bamboo plantation

Luiz Ghelmandi Netto

Board: 14

(271) Quality problems in Construction: A study case on the implantation and management of quality in a construction company of Teresina-PI

Thais Rodrigues Ibiapino

Notes

Promotion:



Sponsorship:



Organization:

