



5th IEEE ICALT'2016 - Program at a Glance

1-3 June 2016, Galaxy Hotel, Krakow – Poland



	Wednesday 1 June 2016	Thursday 2 June 2016	Friday 3 June 2016
08:30-09:00	Registration		
09:00-09:30	Opening Session IEEE Intelligent Transportation Systems Society ITSS presentation	OLC 2 #22, #38, #52, #55, #58	ITS 3 #31, #37, #50, #54, #66, #71
09:30-10:00	Plenary Talk 1 Chengbin Chu (University of Paris-Saclay, France)	Plenary Talk 2 Magdalena Osińska (Nicolaus Copernicus Univ. of Torun, Poland)	Coffee Break & Poster Session #10, #11, #19, #20, #23, #24, #28, #39, #40, #43, #44, #49, #61, #63, #64, #68, #72, #73
10:00-10:30			
10:30-11:00	Coffee Break	Coffee Break	
11:00-11:30	OLC 1 #2, #14, #26, #33, #42	LSCM 2 #15, #36, #67	Plenary Talk 3 Rubén Ruiz (Polytechnic University of Valencia, Spain)
11:30-12:00		Tutorial Marcin Kapczynski (Thomson Reuters)	
12:00-12:30			
12:30-13:00	Lunch	Lunch	Lunch
13:00-13:30			
13:30-14:00	LSCM 1 #4, #5, #12, #13, #41	ITS 2 #3, #30, #35, #45, #46	<ul style="list-style-type: none"> • ITS: Intelligent Transportation Systems • LSCM: Logistics & Supply Chain Management • OLC: Optimization and Logistics Challenges
14:00-14:30			
14:30-15:00			
15:00-15:30			
15:30-16:00	Coffee Break	Coffee Break	
16:00-16:30	ITS 1 #8, #18, #21, #25, #29	LSCM 3 #6, #9, #16, #32, #47	
16:30-17:00			
17:00-17:30			
17:30-18:00			
		Gala Dinner in Galaxy Hotel at 19:30	

Plenary Talk 1

Time: 09:30 – 10:30

Chairs: Robert Kuceba (Czestochowa University of Technology, Poland) & Rubén Ruiz (Polytechnic University of Valencia, Spain)

Research Issues in Agile Supply Chains

Chengbin Chu

Professor, Centrale Supélec, Université Paris-Saclay, France

Director/Chair Professor of Supply Chain Management



Abstract. In this talk, we discuss the concept of agile supply chains. Especially we present major concerns of practitioners and the gap between their expectations and academic research, identify some interesting topics for academic research. To illustrate, we address a real-life problem in flexible quantity contracting between a supplier and a manufacturer, discuss its mathematical modeling under deterministic and stochastic settings and the challenges, present other relevant topics for future research.

Biography. Chengbin Chu received the B.Sc. degree in Electrical Engineering from Hefei University of Technology, Hefei, China, in 1985 and the Ph.D. degree in Computer Science from Metz University, Metz, France, in 1990. He was with the National Research Institute in Computer Science and Automation (INRIA), France, as a Research Officer (chargé de recherche) from 1987 to 1996. He was a Professor with the University of Technology of Troyes, France, from 1996 to 2008, where he was also the Founding Director of the Industrial Systems Optimization Laboratory. He currently holds a Chair Position in Supply Chain Management at CentraleSupélec, Université Paris-Saclay, France, sponsored by Carrefour, LVMH, SAFRAN and SANOFI. He is interested in research areas related to operations research and modeling, analysis, and optimization of supply chain and production systems. He is author or co-author of three books and more than 140 articles in international journals such as *Operations Research*, *SIAM Journal of Computing*, *European Journal of Operational Research*, *IEEE Transactions on Robotics and Automation*, *IEEE Transactions on Automation Science and Engineering*, *IEEE Transactions on Systems, Man and Cybernetics, Parts A and C*, *International Journal of Production Research*, *Naval Research Logistics*, and so on. He also published many papers in conference proceedings. For his research and application activities, he received the First Prize of Robert Faure Award in 1996. He also received the “1998 Best Transactions Paper Award” from the IEEE Robotics and Automation Society. Three of his articles have been awarded in international conferences. Dr. Chu was named “Chang Jiang Scholars Programme” Chair Professor by the Chinese Ministry of Education in 2005. He was an Overseas Visiting Professor and Overseas Director of the Department of Industrial Engineering at Xi’an Jiaotong University from 2006 to 2010. He is currently a Visiting Chair Professor at Tongji University, Shanghai, China. He served as an Associate Editor of the *IEEE Transactions on Robotics and Automation* from 2001 to 2004. He is currently an Associate Editor of the *IEEE Transactions on Automation Science and Engineering* and the *IEEE Transactions on Industrial Informatics* and a member of the Editorial Board of *Computers & Industrial Engineering*.

#OLC – Optimization and Logistics Challenges OLC 1

Time: 11:00 – 12:40

Chairs: Lorena Silvana Reyes Rubiano (University of la Sabana, Colombia) & Maria Makuła-Włodarczyk (Czestochowa University of Technology, Poland)

- OLC2** **Efficient Control Software Design for Automated Material Handling Systems Based on a Two-Layer Architecture**
*Markus Spindler, Thomas Aicher, Daniel Schütz, Birgit Vogel-Heuser and Willibald Günthner
Technische Universität München, Germany*
- OLC14** **The evaluation of classification methods of products used in storage management**
*Augustyn Lorenc, Maciej Szkoda and Elżbieta Wyras
Cracow University of Technology, Poland*
- OLC26** **Optimal Scheduling in Home Health Care: Pharmacy-Hospital-Patient's Vehicle Routing Problem**
*Liyang Xiao, Mahjoub Dridi and Amir Hajjam-El-Hassani
University of Technology at Belfort and Montbéliard, France*
- OLC33** **A Parallel Approach for Optimizing the RMC Delivery Problem**
*Mohamed Masoud, Sanghoon Lee and Saeid Belkasim
Georgia State University, USA*
- OLC42** **An Approach to Modeling and Simulation of a Complex Conveyor System Based on QUEST - Case Study**
*Adam Wiercioch and Waldemar Małopolski
Politechnika Krakowska, Poland*

#LSCM – Logistics & Supply Chain Management LSCM 1

Time: 13:50 – 15:30

Chairs: Chengbin Chu (University Paris-Saclay, France) & Blanka Tundys (University of Szczecin, Poland)

- LSCM4 Modelling dimensions of quality assessment of logistics services in road refrigerated transport**
Teresa Gajewska and Ludmiła Filina-Dawidowicz
Cracow University of Technology, Poland
- LSCM5 A Simulation Method of Calculating the Real-time Traffic Volume for a Container Terminal Considering the Stochastic Vessels Arrival Time**
Yun Peng, Wenyuan Wang, Xiangqun Song and Zhongya Chen
Dalian University of Technology, China
- LSCM12 Increasing Safety by Methods and Ways to Prevent Failure in Marine Equipment**
Jerzy Herdzik
Gdynia Maritime University, Poland
- LSCM13 Assessment of the impact of products classification methods onto the efficiency of order picking process**
Augustyn Lorenc, Ilona Jacyna-Gołda and Andrzej Szarata
Cracow University of Technology, Poland
- LSCM41 Supply Chain Security Management for Business Continuity Management**
Virgil Popa
Valahia University of Targoviste, Romania

#ITS – Intelligent Transportation Systems ITS1

Time: 16:00 – 17:40

Chairs: Bertrand David (Ecole Centrale de Lyon, France) & Dorota Jelonek (Czestochowa University of Technology, Poland)

- ITS8** **Traffic Impact for Breadth-First Search–Based Remaining Range Prediction for Electric Vehicle: an analysis on Paris and suburbs ways**
Uzunova Milka, [Rositsa Velichkova](#) and Abdel-Moumen Darcherif
Technical University of Sofia, Bulgaria
- ITS18** **Traffic Control In View Of Their Advanced Features In Intelligent Transport Systems In The Region**
Alexander Novikov, Ivan Novikov, Andrei Katunin and [Anastasiya Shevtsova](#)
Belgorod State Technological University after V.G. Shukhov, Russian Federation
- ITS21** **Development of Sustainable Urban Mobility Planning for City of Krakow**
[Maciej Michnej](#) and Tomasz Zwoliński
Cracow University of Technology, Poland
- ITS25** **Monitoring Performances in Public Transport Systems: a Design Methodology**
[Filippo Benvenuti](#), Claudia Diamantini and Domenico Potena
Università Politecnica delle Marche, Italy
- ITS29** **Revealing correspondences between bikers' mobility and information management attributes**
[Dávid Földes](#) and Csaba Csiszár
Budapest University of Technology and Economics, Hungary

#OLC – Optimization and Logistics Challenges OLC 2

Time: 08:20 – 10:00

Chairs: Rubén Ruiz (Polytechnic University of Valencia, Spain) & Beata Ślusarczyk (Czestochowa University of Technology, Poland)

- OLC22** **Mathematical Model for Location and Routing in Disaster Operations Management: A Case Study of Post-disaster Due to Flood**
Lorena S. Reyes-Rubiano, Andrés F. Torres-Ramos, Jairo R. Montoya-Torres and Carlos L. Quintero-Araújo
Universidad de La Sabana, Colombia
- OLC38** **City's Parameters Influence on Transportation Servicing**
Andrii Galkin, Yevhen Kush and Viktor Dolia
University of Urban Economy, Ukraine
- OLC52** **A Genetic Programming Algorithm for the Berth and Quay Crane Allocation Problem**
Tamer El-Boghdadly, Mohamed Bader-El-Den and Dylan Jones
University of Portsmouth, United Kingdom
- OLC55** **Static complexity comparison of job shop and flow shop layouts**
Zuzana Šoltysová and Vladimír Modrák
Technical University of Košice, Slovakia
- OLC58** **A Decision Support Model for Ships to Berths Allocation Problem and Physical Flows in a Container Terminal**
Lobna Kallel, Mounir Benaissa and Hichem Kamoun
University of Sfax, Tunisia

Plenary Talk 2

Time: 10:00 – 11:00

Chairs: Meng Lu (VP conferences, IEEE ITS Society) & Beata Skowron-Grabowska (Czestochowa University of Technology, Poland)

Quality of information in logistics and methods of its analysis

Magdalena Osińska

Professor: Nicolaus Copernicus University of Torun, Poland

Editor in Chief: Statistical Review



Abstract. The problem of information in logistics is crucial for operational realization of a supply chain tasks. At present the amount of information is huge due to a great popularity and availability of information systems that are stored in different ways (i.e. in a cloud). However sources and availability of information are different that creates threats of non-satisfying all the logistic obligations at each stage of the supply chain and generating additional costs. Particularly the division on internal and external information sources seems to be of a great importance. The purpose of the presentation is to identify possible sources of discrepancy between a “true” information and a “false” information that occur in a logistic system. A long-term-impact and a short-term-impact information will be then defined and discussed. As a result, a general model of informational risk in a logistic system, combining both: sources of risk and methods of its measurement will be analyzed. Two case studies will be also provided. One of them concerns logistics in a medical care and the second is related to transportation.

Biography: She graduated in economics in 1987. She obtained a PhD degree in 1994 and a habilitation degree in 2000 with specialization of econometrics; both at Nicolaus Copernicus University (NCU) of Torun, Poland. Since 2009 she is full professor in economics. Since 2011 she is the Head of Doctoral Studies in Economics, Finance and Management at the Faculty of Economic Sciences and Management NC University in Torun. Since 2012 Prof. Osinska has been an expert of Polish Accreditation Committee (for study program assessment) and an international expert for quality assurance in Lithuania. Furthermore she was a member of the team for the AACSB accreditation for NC University (succeeded in 2015).

She was an advisor for 9 doctoral thesis and a reviewer of 22. She was the leader of various research teams, awarded by the Rector of the NCU for research activity.

Her publication activity is related to the subject of time series analysis, econometric modeling, financial econometrics and logistics and transportation. She published 109 research articles and 8 books, among them Financial econometrics (a book, Polish Economic Publ. 2006) and On the Interpretation of Granger Causality (Dyn. Econometric Models; 2011) became most widely cited. In the last years her research interest has been concentrated on risk measurement in logistics. In the years 2010-2012 Prof. Osinska prepared three independent reports about the impact of the newly introduced electronic toll collect system on financial situation of Polish road transport enterprises upon request of the Association of International Road Transport Operators (ZMPD) in Poland, Warsaw.

Her teaching experience consists of lectures in the following areas: Econometrics, Applied Econometrics, Financial Econometrics, Business Forecasting, Basic Statistics and Statistics in Management, Statistics in Audit, Economic Analysis in Transportation for graduates, post graduates and MBA level (in cooperation with Dominican University of Chicago, USA), Causality Analysis in Economics at PhD level. She was a supervisor of 293 MA theses and 240 BA theses.

#LSCM – Logistics & Supply Chain Management LSCM 2

Time: 11:30 – 12:30

Chairs: Virgil Popa (Valahia University of Targoviste, Romania) & Ludmiła Filina-Dawidowicz (West Pomeranian University of Technology, Poland)

LSCM15 Study on reliability of a transport system using Dynamic Fault Tree and Monte Carlo Simulation

Grzegorz Kaczor and Maciej Szkoda

Cracow University of Technology, Poland

LSCM36 Developing and testing a methodology for acquiring the logistical characteristics of shopping malls in Budapest, for city logistical solutions

Bálint Mészáros, Dávid Lajos Sárdi and Krisztián Bóna

Budapest University of Technology and Economics, Hungary

LSCM67 Chosen aspects of logistic controlling in automotive company

Karolina Rybicka

Czestochowa University of Technology, Poland

Tutorial

Time: 12:30 – 13:00

Chair: Marta Starostka-Patyk (Czestochowa University of Technology)

Using Web of Science data for research and journal evaluation, strategic planning and research monitoring

Marcin Kapczynski

Strategic Business Manager, Thomson Reuters



Abstract. The presentation shows the ways of using research analytics tools such as Web of Science data for determining research impact, identifying prospective research areas, choosing organizations and scientists for collaboration and monitoring the results of research activities. Also it touches interesting aspect of using bibliometrical data for creating the publication strategy and Journal evaluation.

Biography. Marcin Kapczynski is Strategic Business Manager at Thomson Reuters Intellectual Property & Science. In Thomson Reuters since 2010. He is involved in shaping research evaluation process in Poland. In his main role provides support for research analytical and discovery tools such as Web of Science, InCites or Journal Citation Reports. He enthusiastically shares understanding of scientometry and bibliometric approach. Kapczynski works with researchers, academics and librarians at all levels and offers consultancy services to government and corporate institutions.

#ITS – Intelligent Transportation Systems ITS2

Time: 14:00 – 15:40

Chairs: Jean-Michel Douin (CNAM, France) & Piotr Kisielewski (Cracow University of Technology, Poland)

- ITS3** **Transport Activity Costs in the Aspect of Applied Information Technology**
Sebastian Kot
Czestochowa University of Technology, Poland
- ITS30** **Concept of mobile application aiding electromobility**
Gábor Pauer and Csaba Csiszár
Budapest University of Technology and Economics, Hungary
- ITS35** **Dynamic Road Lane Management: Driver's Real Time Acceptability and Usability Evaluation Tool**
Bertrand David, Rene Chalon, Chen Wang and Bertin Nayo
Ecole Centrale de Lyon, France
- ITS45** **Application of Vehicle's Weigh-In-Motion Systems to Enforcement**
Piotr Burnos, Janusz Gajda and Ryszard Sroka
AGH University of Science and Technology, Poland
- ITS46** **Determination of best routes in public transport**
Azad Derakhshan and Dilay Celebi
Istanbul Technical University, Turkey

#LSCM – Logistics & Supply Chain Management LSCM 3

Time: 16:00 – 17:40

Chairs: Sebastian Kot (Czestochowa University of Technology) & Andrzej Szarata (Cracow University of Technology, Poland)

- LSCM6** **Traffic Capacity of Signalized Intersections For Evacuation Roads Considering Impact of Container Trucks**
Wenyuan Wang, Yun Peng, Qi Zhang and Hanqing Liu
Dalian University of Technology, China
- LSCM9** **The use of computer simulation to model the supply chain**
Tomasz Wiśniewski and Agnieszka Matuszczak
University of Szczecin, Poland
- LSCM16** **Customer satisfaction in the field of comprehensive service of refrigerated containers in seaports**
Teresa Gajewska and Ludmiła Filina-Dawidowicz
West Pomeranian University of Technology, Poland
- LSCM32** **Sustainable supplier selection criteria in the context of developing of green supply chain**
Blanka Tundys
University of Szczecin, Poland
- LSCM47** **A Method for Automatic Creation of Bidirectional Transportation Paths for AGVs in Delmia Quest**
Waldemar Małopolski
Politechnika Krakowska, Poland

#ITS – Intelligent Transportation Systems ITS 3

Time: 08:30 – 10:30

Chairs: Anna Brzozowska (Czestochowa University of Technology, Poland) & Agata Mesjasz-Lech (Czestochowa University of Technology, Poland)

- ITS31 A size adaptable transportation system**
Madeleine El-Zaher, Xiaolin Song and Aicha Sekhari
University of Lyon 2, France
- ITS37 Risk and costs evaluation in intermodal transport – variance analyze of using cargo positioning and parameters monitoring systems**
Augustyn Lorenc and Małgorzata Kuźnar
Cracow University of Technology, Poland
- ITS50 Hybrid Sensor Behavioural Anomalies Detection by Using Algorithm MTS**
Yasmin Barzaj, Stéphane Espié and Jean-Michel Douin
CNAM/CEDRIC, France
- ITS54 Management of Transport Systems during International Mega Events: a Case Study of World Youth Day 2016**
Anton Pashkevich, Irina Makarova, Rifat Khabibullin, Eduard Belyaev, Vadim Mavrin and Eduard Mukhametdinov
Politechnika Krakowska, Poland
- ITS66 Preliminary study on stakeholders' needs and requirements in the development of a traceability system for road transport of crude oil**
Mohamed Haykal Ammar, Mounir Benaissa and Habib Chabchoub
University of Sfax, Tunisia
- ITS71 Comparative analysis of electronic freight exchanges**
Piotr Kisielewski, Michał Leśniakiewicz
Cracow University of Technology, Poland

Poster Session

Time: 10:30 – 11:30

Chairs: Gajewska Teresa (Cracow Univ Technology, Poland) & Markus Spindler (Technische Univ München, Germany)

- P10** **Determinants of applying the outsourcing in the area of maintenance of manufacturing enterprises**
Katarzyna Grondys and Paula Bajdor
Czestochowa University of Technology, Poland
- P11** **The scale and effects of entrepreneurship in the sector of logistics services in Poland**
Agata Mesjasz-Lech
Czestochowa University of Technology, Poland
- P19** **Entrepreneurial Networks and Logistics Networks of Small Firms**
Piotr Tomski
Czestochowa University of Technology, Poland
- P20** **Around the management of sustainable supply chain of enterprises and stakeholders – theoretical background and empirical studies**
Helena Koscielniak
Czestochowa University of Technology, Poland
- P23** **Managing cold supply chain**
Anna Brzozowska, Justyna Imiolczyk, Adam Brzeszczak and Katarzyna Szymczyk
Czestochowa University of Technology, Poland
- P24** **Managing of Spare Parts Supplies for Assurance of the Air Traffic Fluency**
Beata Ślusarczyk
Czestochowa University of Technology, Poland
- P28** **Regional aviation transport infrastructure in Poland. On the example of Czestochowa county**
Aleksander Pabian
Czestochowa University of Technology, Poland
- P39** **The Environmental Benefits of Cloud Computing**
Paula Bajdor
Czestochowa University of Technology, Poland
- P40** **Assessment of company return product policy in the context of triple bottom line performance - Research case of mobile phone**
Tomasz Nitkiewicz
Czestochowa University of Technology, Poland
- P43** **The need of returns logistics centres creation at the Polish services market – theoretical approach based on logistics management of defective products concept**
Marta Starostka-Patyk and Beata Skowron-Grabowska
Czestochowa University of Technology, Poland
- P44** **The Identification of Activities, Consistent with the Ecologistics, Based on the Actions Undertaken by Polish Companies**
Iga Kott, Marta Kadłubek and Wioletta Skibińska
Czestochowa University of Technology, Poland

- P49** **The importance of a Quality Management System for transport companies**
Katarzyna Sukiennik and Jarosław Jasiński
Czestochowa University of Technology, Poland
- P61** **Assessment of polycyclic aromatic hydrocarbons (PAHs) pollution in soils along transport communication routes**
Marzena Smol, Maria Włodarczyk-Makuła and Marta Starostka-Patyk
Czestochowa University of Technology, Poland
- P63** **Conceptual and IT tools for managing relations in the supply chain**
Dagmara Bubel
Czestochowa University of Technology, Poland
- P64** **Logistics integration in product design - A Simulation Perspective**
Samir Ben Abdallah, Aidi Maher, Alaeddine Zouari and Aref Maalej
University of Sfax, Tunisia
- P68** **Sustainable Transport Capacities Evaluation Methodology**
Ibtissem Sassi, Nadia Hamani, Abdellatif Benabdelhafid and Sami Hammami
University of Picardie, France
- P72** **Hybrid Approach to Optimize Reverse Logistics Network**
Zeineb Kacem, Mounir Elleuch and Mounir Benaissa
University of Sfax, Tunisia
- P73** **Decision support system for bed management in hospital**
Nesrine Zoghlami, Souad Rabah and Mourad Abed
University of El Manar Tunis, Tunisia

Plenary Talk 3

Time: 11:30 – 12:30

Chairs: Mourad Abed (University of Valenciennes, France) & Ilona Jacyna-Golda (Cracow University of Technology, Poland)***Realistic scheduling with simple metaheuristics*****Rubén Ruiz***Professor, Polytechnic University of Valencia, Spain*

Abstract. In practice, industrial finite capacity scheduling problems are complex and varied, as it is the nature of the products being manufactured. After all, a car (and its manufacturing process) has little in common with a toothbrush, to name just one example. Expectedly, the resulting scheduling problems of different products, differ wildly and so do the needed scheduling algorithms. Furthermore, developing scheduling methods for each different manufacturing problem is extremely time consuming. Such scheduling algorithms, even if successful, are hardly a viable choice as continuous changes in products, machines, tooling, processes, methodologies, etc. might render them quickly obsolete. A potential solution to this situation is to employ simple metaheuristics without too much problem-specific knowledge and working on a problem agnostic solution representation abstraction. Effective metaheuristics might still produce state-of-the-art results on most situations and can result in good solutions for instances of realistic size in a matter of minutes. In this presentation, we will introduce simple metaheuristics based on the Iterated Greedy (IG) principles. These methods are inherently simple with very few parameters. They are easy to code and results are easy to reproduce. We will show that for all tested problems so far they show state-of-the-art performance despite their simplicity. Special emphasis will be put on realistic scheduling problems coming from several industrial applications. We will move from flow shops to real hybrid flexible flow line problems with several side constraints. We will defend the choice of simpler, yet good performing approaches over complicated metaphor-based algorithms in a solid attempt to close the long-standing research gap between the theory and the practice of scheduling.

Biography. Rubén Ruiz is Full Professor of Statistics and Operations Research at the Polytechnic University of Valencia, Spain. He is co-author of more than 50 papers in International Journals and has participated in presentations of more than a hundred papers in national and international conferences. He is editor of the Elsevier's journal Operations Research Perspectives (ORP) and co-editor of the JCR-listed journal European Journal of Industrial Engineering (EJIE). He is also associate editor of other important journals like TOP or Applied Mathematics and Computation as well as member of the editorial boards of several journals most notably European Journal of Operational Research and Computers and Operations Research. He is the director of the Applied Optimization Systems Group (SOA, <http://soa.iti.es>) at the Instituto Tecnológico de Informática (ITI, <http://www.iti.es>) where he has been principal investigator of several public research projects as well as privately funded projects with industrial companies. His research interests include scheduling and routing in real life scenarios.