

**TWENTIETH INTERNATIONAL  
WORKING SEMINAR  
ON  
PRODUCTION ECONOMICS  
FEBRUARY 19-23, 2018  
INNSBRUCK  
AUSTRIA**

**SCIENTIFIC  
PROGRAMME**

**TUESDAY, February 20**

**8.00-8.45**

**OPENING SESSION (Saal Brüssel)**

**Chairman: Professor Dr Hans H. Hinterhuber, University of Innsbruck**

**WELCOMING ADDRESS**

**Professor Dr Ulrike Tanzer, Vice Rector for Research, University of Innsbruck**

**KEYNOTE ADDRESS**

**“Text Mining for Data Collection in Production Economics Research”**

**Professor Dr Ou Tang, Linköping Institute of Technology**

**COMMENTS ON PROGRAMME STRUCTURE by Dr Janerik Lundquist, Linköping Institute of Technology**

**STREAM A (Saal Strassburg 1)  
Production Planning & Control**

**Chairman: Professor D. Clay Whybark, USA**

**08.45-09.30**

**Mahsa Bahramkhoo, Kaveh Khalili-Damghani and Alireza Pakgozar**

**NEW BI-OBJECTIVE LOCATION-COVERAGE MODELS TO DETERMINE LOCATION OF BANKS' ATMS CONSIDERING FAILURE RATE (CASE STUDY: SAMAN BANK)**

*Discussant: Violetta G. Cannas, Italya*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Christian Bohner, Stefan Minner and Frederik Wielens  
FLEET RENEWAL FOR CONTAINER LINER SHIPPING – A STOCHASTIC PROGRAMMING APPROACH**

*Discussant: Per Joakim Agrell, Belgium*

**10.45-11.30**

**Per J. Agrell, Manuel Herrera Rodriguez, Casiano Manrique and Lourdes Trujillo**

**LINER SHIP FLEET DEPLOYMENT MODELS AND THE COST OF TIME: THE CASE OF THE CHINA – USA MARITIME ROUTES**

*Discussant: Li Zho, United Kingdom*

**STREAM B (Saal Strassburg 2)  
General Production Economics**

**Chairman: Professor Christopher O'Brien, United Kingdom**

**08.45-09.30**

**Mehmet Chakkol, Max Finne and Jonathan Canion**

**COLLABORATING EFFECTIVELY IN COMPLEX PROJECTS**

*Discussant: Ilaria Giannoccaro, Italy*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Jan Niklas Dörseln, Timo Klünder and Marion Steven  
PROCUREMENT 4.0 – COST EFFECTS OF DIGITALIZATION ON PROCUREMENT**

*Discussant: Peter O'Neill, Australia*

**10.45-11.30**

**S. Thomas Foster Jr**

**A NEW MODEL FOR TEACHING SUPPLY CHAIN AND OPERATIONS MANAGEMENT**

*Discussant: Fabiana Dafne Cifone, Italy*

**STREAM C (Saal Linköping)  
Inventory Control**

**Chairman: Professor Günter Fandel, Germany**

**08.45-09.30**

**Sarah Van der Auweraer and Robert Boute**

**FORECASTING SPARE PART DEMAND USING SERVICE MAINTENANCE INFORMATION**

*Discussant: Geert Waeyenbergh, Belgium*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Joren Gijsbrechts and Robert Boute  
REPLENISHMENT USING MULTIPLE TRANSPORT MODES: A REINFORCEMENT LEARNING APPROACH**

*Discussant: Claire Chan, Austria*

**10.45-11.30**

**Karen Moons, Ernest Vandermeulen, Liliane Pintelon, Geert Waeyenbergh and Paul Timmermans  
OPERATING ROOM SUPPLY CHAIN MANAGEMENT: A SIMULATION CASE STUDY**

*Discussant: Kevin W. Li, Canada*

**STREAM A (Saal Strassburg 1)**

**Production Planning & Control**

**Chairman: Professor Li Zhou, United Kingdom**

**19.00-19.45**

**Boualem Rabta and Gerald Reiner**

EFFECT OF THE PERTURBATION OF THE  
PARAMETERS OF PRODUCTION AND  
MANUFACTURING MODELS ON THEIR  
PERFORMANCE

*Discussant: Shanshan Li, China*

**19.45-20.30**

**Po-Chien Hao, Kuan-Ting Lin, Tsung-Jung Hsieh, Huai-  
Che Hong and Bertrand M.T. Lin**

APPROACHES TO SIMPLIFICATION OF JOB SHOP  
MODELS

*Discussant: Lina Zhang, United Kingdom*

**20.30-21.15**

**Emanuele Borgonovo, G.B. Hazen, V.R. Jose and E.  
Plischke**

INFORMATION DENSITY IN LINEAR PROGRAMMING

*Discussant Junyi Lin, United Kingdom*

**STREAM B (Saal Strassburg 2)**

**General Production Economics**

**Chairman: Professor Christopher O'Brien,  
United Kingdom**

**19.00-19.45**

**Zeming Yuan, Tian Li, Tao Ma and Yuyuan Fu**

THE ANALYSIS DRIVING FACTORS AND MODEL  
EXPLORATION FOR SMES TRANSFORMATION AND  
UPGRADING

*Discussant: Mikael Öhman, Finland*

**19.45-20.30**

**Giovanna Lo Nigro, Umberto Panniello and Paolo Roma**

SHARING ECONOMY AND PRICE DISPERSION: THE  
IMPACT OF AIRBNB ON THE HOSPITALITY INDUSTRY

*Discussant: Stefan Gold, Germany*

**20.30-21.15**

**Jie (Kitt) Ma, Ying Kei (Mike) Tse, Minghao Zhang, Yuji  
Sato and Jin Yu**

EXPLORING THE PUBLIC PERCEPTION IN SOCIAL BIG  
DATA: AN INVESTIGATION IN MARS RECALL  
SCANDAL

*Discussant: Fehmi Muhsin Yüksel, Germany*

**STREAM C (Saal Linköping)**

**Inventory Control**

**Chairman: Professor Günter Fandel, Germany**

**19.00-19.45**

**Sharareh R. Dehkordi, Wenbo Cai and Layek Abdel-Malek**

THE IMPACT OF ADOPTING 3D PRINTING  
TECHNOLOGY ON RETAILER'S CAPACITY AND  
INVENTORY DECISIONS

*Discussant: Sarah Van der Auweraer, Belgium*

**19.45-20.30**

**M. Hasni, Mohamed Zied Babai, M. Aguir and Z. Jema**

ON THE PERFORMANCE OF ADJUSTED  
BOOTSTRAPPING METHODS FOR INTERMITTENT  
DEMAND FORECASTING

*Discussant: Robert Boute, Belgium*

**20.30-21.15**

**Qinyun Li and Stephen M. Disney**

INVENTORY PERFORMANCE OF THE DAMPED TREND  
FORECASTING METHOD

*Discussant: Joakim Wikner, Sweden*

**TUESDAY, February 20**

**8.00-8.45**

**OPENING SESSION (Saal Brüssel)**

**Chairman: Professor Dr Hans H. Hinterhuber, University of Innsbruck**

**WELCOMING ADDRESS**

**Professor Dr Ulrike Tanzer, Vice Rector for Research, University of Innsbruck**

**KEYNOTE ADDRESS**

**“Text Mining for Data Collection in Production Economics Research”**

**Professor Dr Ou Tang, Linköping Institute of Technology**

**COMMENTS ON PROGRAMME STRUCTURE by Dr Janerik Lundquist, Linköping Institute of Technology**

**STREAM D (Saal Freiburg 1)**

**Scheduling**

**Chairman: Professor Ou Tang, Sweden**

**08.45-09.30**

**Margaretha Gansterer and Richard F. Hartl**

**STREAM E (Saal Freiburg 2)**

**Supply Chain Management**

**Chairman: Professor Mohamed M. Naim, United Kingdom**

**08.45-09.30**

**Patricia Roetzger, Lena Silbermayr and Werner Jammerneegg**

**STREAM F (Saal New Orleans)**

**Risk Management in Production**

**Chairman: Professor Peter Kelle, USA**

**08.45-09.30**

**Yi Zhang, Guowei Hua, T.C.Edwin Cheng, Juliang Zhang**

**and Vicenc Fernandez**

**RISK POOLING THROUGH OFFLINE**

**PROBABILISTIC SELLING**

*Discussant: Gionata Carmignani, Italy*

**Coffee Break 9.30-10.00**

**COMBINATORIAL AUCTIONS FOR COLLABORATIVE  
MULTI-LEVEL LOT SIZING PROBLEMS**

*Discussant: Zehra Melis Teksan, Turkey*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Cevdet Utku Şafak and Görkem Yılmaz**

**SUSTAINABLE SOURCING OF CRITICAL RAW MATERIALS:  
INCLUDING RECYCLED MATERIALS IN THE SUPPLY CHAIN**

*Discussant: Alessandro Brun, Italy*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Samuel Fosso Wamba and Shahriar Akter**

**10.00-10.45**

**Gionata Carmignani, Gloria Cervelli and Francesco Zammori**

**MODIFIED QFD APPROACH FOR CONTEXT**

**ANALYSIS AND RISK MANAGEMENT**

**ACCORDING TO ISO STANDARDS**

*Discussant: Yi Zhang, Hong Kong*

**SIMULTANEOUS LOT SIZING AND SCHEDULING  
INCLUDING OVERTIME, SHIFT DECISIONS IN A  
SINGLE STAGE TOOL AND MACHINE PRODUCTION  
ENVIRONMENT**

*Discussant: Margaretha Gansterer, Germany*

**10.45-11.30**

**Erinç Albey, Z. and Melis Teksan**

**NONIDENTICAL PARALLEL MACHINE SCHEDULING  
WITH TIME-DEPENDENT DETERIORATION OF JOBS**

*Discussant Gorkem Yilmaz, Turkey*

**BIG DATA ENABLED DYNAMIC CAPABILITIES AND FIRM  
OUTCOMES: EXPLORING THE MEDIATING EFFECTS OF  
‘TRIPLE A’ IN SUPPLY CHAIN MANAGEMENT**

*Discussant: Pinja Raitasuo, Finland*

**10.45-11.30**

**Shilei Yang, Chunming (Victor) Shi and Yibin (Robbin) Zhang**

**THE BENEFIT OF SUPPLY CHAIN DECENTRALIZATION  
UNDER SEQUENTIAL QUALITY CHOICE**

*Discussant: Xiaoyu Gu, United Kingdom*

**STREAM D (Saal Freiburg 1)**

**Additive Manufacturing**

**Chairman: Professor Lucio E. Zavanella, Italy**

**19.00-19.45**

**Qiang Li, Ibrahim Kucukkoc, Naihui He, David Zhang and Shilong Wang**

PRODUCTION SCHEDULING IN ADDITIVE MANUFACTURING WITH DYNAMICALLY ARRIVING ORDERS

*Discussant: Imre Dobos, Hungary*

**19.45-20.30**

**Qiang Li, Ibrahim Kucukkoc, Naihui He, David Zhang and Shilong Wang**

ORDER ACCEPTANCE AND SCHEDULING IN METAL ADDITIVE MANUFACTURING: AN OPTIMAL FORAGING APPROACH

*Discussant: Bartholomew L. MacCarthy, United Kingdom*

**STREAM E (Saal Freiburg 2)**

**Product Development**

**Chairman: Professor Ilaria Giannoccaro, Italy**

**19.00-19.45**

**Hakan Karaosman and Alessandro Brun**

PRODUCT MATRIX: A MODEL FOR SUSTAINABILITY ASSESSMENT AT PRODUCT LEVEL

*Discussant Lea Hannola, Finland*

**19.45-20.30**

**Federica Ciccullo, Margherita Pero and Andrea Sianesi**

SUPPLY CHAIN COORDINATION MECHANISMS DURING NEW PRODUCT DEVELOPMENT IN THE MACHINERY INDUSTRY: A MATTER OF CONTINGENCIES

*Discussant: Dennis Prak, The Netherlands*

**20.30-21.15**

**Jinou Xu, Margherita Pero and Monica Rossi**

TRIADIC SUPPLY NETWORK RELATIONSHIP IN NEW PRODUCT DEVELOPMENT: A COMPARISON BETWEEN ITALY AND CHINA

*Discussant Markku Kuula, Finland*

**STREAM F (Saal New Orleans)**

**Investment & Financial Planning**

**Chairman: Professor Simone Zanoni, Italy**

**19.00-19.45**

**Robert W. Grubbström**

APPLICATION OF THE LAPLACE TRANSFORM TO THE RISK PREFERENCE EVALUATION OF RISKY INVESTMENTS

*Discussant: Henny P.G. van Ooijen, The Netherlands*

**19.45-20.30**

**Ying Hao, Lujie Chen, Xiande Zhao and Ou Tang**

THE ROLE OF INFORMATION TECHNOLOGY IN SUPPLY CHAIN FINANCE: INVESTIGATION FROM BANKS

*Discussant Thomas S. Spengler, Germany*

**20.30-21.15**

**Leila Schwab, Stefan Gold and Gerald Reiner**

EXPLORING FINANCIAL SUSTAINABILITY OF SMES DURING PERIODS OF PRODUCTION GROWTH: A SIMULATION STUDY

*Discussant: Lujie Chen, China*

**WEDNESDAY, February 21**

**STREAM A (Saal Strassburg 1)**

**Production Planning & Control**

**Chairman: Professor Giovanna Lo Nigro, Italy**

**08.00-08.45**

**Oussama Ben-Ammar, Belgacem Bettayeb and Alexandre Dolgui**

OPTIMIZATION OF MULTI-PERIOD PRODUCTION PLANNING UNDER STOCHASTIC LEAD TIMES AND A DYNAMIC DEMAND

*Discussant: Renzo Akkerman, The Netherlands*

**08.45-09.30**

**Shanshan Li, Yong He and Stefan Minner**

DYNAMIC STRATEGIES FOR SUPPLY DISRUPTION MANAGEMENT IN A MAKE-TO-ORDER SUPPLY CHAIN

*Discussant: Stephen M. Disney, United Kingdom*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Gerard J.C. Gaalman, Stephen M. Disney and Xun Wang**

BULLWHIP BEHAVIOR AS FUNCTION OF THE LEAD-TIME FOR THE ORDER-UP-TO POLICY UNDER ARMA DEMAND

*Discussant: Qiang Li, United Kingdom*

**10.45-11.30**

**Junyi Lin, Mohamed M. Naim and Virginia L. M. Spiegler**

DELIVERY TIME DYNAMICS IN AN ASSEMBLE-TO-ORDER INVENTORY AND ORDER BASED PRODUCTION CONTROL SYSTEM

*Discussant: Klaus Altendorfer, Germany*

**STREAM B (Saal Strassburg 2)**

**General Production Economics**

**Chairman: Professor Richard F. Hartl, Austria**

**08.00-08.45**

**Marija Bogataj, David Bogataj and Samo Drobne**

THE IMPACT OF FISCAL POLICIES ON INTERACTION BETWEEN FLOW OF HUMAN RESOURCES AND FLOW OF ITEMS IN ACTIVITY CELLS OF CITIES AS NODES OF GLOBAL SUPPLY CHAINS

*Discussant: Max Finne, United Kingdom*

**08.45-09.30**

**Juhani Ukko, Sariseelia Sore, Minna Saunila, Tero Rantala and Mina Nasiri**

TURNING E-BUSINESS OPERATIONS FOR BUSINESS VALUE

*Discussant: Anna Aminoff, Finland*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Jaakko Sundberg, Jari Paranko and Klaus Paranko**

THE USEFULNESS OF BUSINESS MODELS FOR THE DEVELOPMENT OF CUSTOMER-SUPPLIER RELATIONSHIPS

*Discussant: Juhani Ukko, Finland*

**10.45-11.30**

**Anna Aminoff, Salla Paajanen and Maria Antikainen**

B2B SHARING ECONOMY IN AN INDUSTRIAL CONTEXT- A PATH TOWARDS MORE SUSTAINABLE MANUFACTURING?

*Discussant: Jari Paranko, Finland*

**STREAM C (Saal Linköping)**

**Inventory Control**

**Chairman: Professor Lorenzo Peccati**

**08.00-08.45**

**Claire Chan and Emel Arikan Fichtinger**

A MODELING APPROACH FOR LEAN-AGILE BASED SEGMENTATION STRATEGIES

*Discussant: Karen Moons, Belgium*

**08.45-09.30**

**Zhi Liu, Xiao-Xue Zheng and Kevin W. Li**

A COOPERATIVE GAME APPROACH TO COORDINATING A THREE-ECHELON CLOSED-LOOP SUPPLY CHAIN WITH FAIRNESS CONCERNS

*Discussant: Joren Gijsbrechts, Belgium*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Joakim Wikner and Stig-Arne Mattsson**

SAFETY CAPACITY DIMENSIONING BASED ON INVENTORY MANAGEMENT METHODS

*Discussant: Mohamed M. Naim, United Kingdom*

**10.45-11.30**

**Hawa Hishamuddin, M. F. Ibrahim, N. F. A. Ghafar and N. M. Darom**

AN INVENTORY RECOVERY MODEL SUBJECT TO SUPPLY DISRUPTION WITH CONSIDERATION OF SAFETY STOCK

*Discussant: Layek Abdel-Malek, USA*

**STREAM A (Saal Strassburg 1)**

**Production Planning & Control**

**Chairman: Professor Giovanna Lo Nigro, Italy**

**19.00-19.45**

**David Bogataj, Marija Bogataj and Domen Hudoklin**

MEASURING THE SUPPLY CHAIN RISK AND  
RESCHEDULING IN CYBER-PHYSICAL SYSTEMS

*Discussant: Manuel Herrera Rodriguez, Belgium*

**19.45-20.30**

**Borja Ponte, Thanos Goltzos, Mohamed M. Naim  
and Aris Syntetos**

INVENTORY DYNAMICS IN CLOSED-LOOP SUPPLY  
CHAINS: THE CASE OF A PURE REMANUFACTURER

*Discussant Gerard J.C. Gaalman, The Netherlands*

**20.30-21.15**

**Dinh Anh Phan, Thi Lan Anh Nguyen, Thi Le Hoa Vo  
and Anh Ngoc Lai**

SUSTAINABLE COORDINATION IN A CONSIGNMENT  
CHANNEL UNDER MANUFACTURER-CSR AND  
RETAILER-MARKETING EFFORTS

*Discussant: Alireza Pakgohar, United Kingdom*

**STREAM B (Saal Strassburg 2)**

**General Production Economics**

**Chairman: Professor Richard F. Hartl, Austria**

**19.00-19.45**

**Kuen S. Chen, Ching H. Wang and Wen Y. Kao**

DEVELOPING A FUZZY GREEN SUPPLIER SELECTION  
MODEL USING SIX SIGMA QUALITY INDICES

*Discussant: Yuji Sato, Japan*

**19.45-20.30**

**Thomas Chesney, Stefan Gold, Grigory Pishchulov and  
Alexander Trautrim**

AGENT-BASED MODELLING TO EXPLORE THE  
IMPACT OF MODERN INDUSTRIAL SLAVERY

*Discussant: Jan Niklas Dörseln, Germany*

**20.30-21.15**

**Shah Ali Riyad, Peter O'Neill and Paul Kalfadellis**

INNOVATION TO COMMERCIALIZATION PATHWAYS  
IN PUBLIC BIOTECHNOLOGY LABORATORIES –  
EVIDENCE FROM AUSTRALIA'S REGENERATIVE  
MEDICINE SECTOR

*Discussant: Amine M. Abdous, France*

**STREAM C (Saal Linköping)**

**Performance Management**

**Chairman: Professor Bertrand M.T. Lin, Taiwan**

**19.00-19.45**

**Andreas Günter and Michael Henke**

PRODUCTIVITY MEASUREMENT CONSIDERING THE  
IMPACT OF HETEROGENEOUS OUTPUT

*Discussant: Arto Tolonen, Finland*

**19.45-20.30**

**Jiangtao Hong, Ya Luo, Yibin (Robbin) Zhang  
and Zhefu Yu**

THE EFFECTS OF SUPPLY CHAIN QUALITY  
MANAGEMENT PRACTICES AND CAPABILITIES ON  
PERFORMANCE: EVIDENCE FROM CHINESE  
MANUFACTURERS

*Discussant: Veronica Lindström, Sweden*

**20.30-21.15**

**Bertha Viviana Ruales Guzman, Alessandro Brun  
and Oscar Fernando Castellanos**

QUALITY MANAGEMENT AS A DETERMINANT  
FACTOR OF PRODUCTIVITY: A LITERATURE REVIEW

*Discussant: Alka Nand, Australia*

**WEDNESDAY, February 21**

**STREAM D (Saal Freiburg 1)**

**Scheduling**

**Chairman: Professor Stefan Minner, Germany**

**08.00-08.45**

**Christoph H. Glock and Eric H. Grosse**

THE INFLUENCE OF VARIABLE PRODUCTION RATES ON THE LOT-SIZING DECISION: A STRUCTURED REVIEW OF THE LITERATURE

*Discussant: Francesco Zangaro, Italy*

**08.45-09.30**

**Hubert Missbauer and Simon Jutz**

A FLOW TIME ORIENTED LOT SIZING MODEL FOR A SERIAL TWO-STAGE PRODUCTION-INVENTORY SYSTEM: ANALYTICAL APPROXIMATION AND SIMULATION-BASED OPTIMIZATION

*Discussant: Christoph Glock, Germany*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Rifat G. Özdemir and Nihan Topuk**

AN OPTIMIZATION APPROACH FOR AIRCRAFT SCHEDULING OF IRREGULAR OPERATIONS: A CASE STUDY

*Discussant: Eric H. Grosse, Germany*

**10.45-11.30**

**Anders Segerstedt and Björn Samuelsson**

LEAST PERIOD COST IS NOT THE SAME AS SILVER MEAL

*Discussant: Hubert Missbauer, Austria*

**STREAM E (Saal Freiburg 2)**

**Supply Chain Management**

**Chairman: Dr Grigory Pishchulov, United Kingdom**

**08.00-08.45**

**Shoujiang Xu and Hing Kai Chan,**

MACHINE LEARNING APPROACH TO IMPROVE SUPPLY CHAIN STRATEGY

*Discussant: Gongtao Zhang, United Kingdom*

**08.45-09.30**

**Yingli Wang, Meita Singgih, Jingyao Wang and Mihaela Rit**

MAKING SENSE OF BLOCKCHAIN TECHNOLOGY: HOW WILL IT TRANSFORM SUPPLY CHAINS?

*Discussant: Takamichi Hosoda, Japan*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Jin Li, Chunming (Victor) Shi and Senjing (Alice) Zhai**  
PARTIAL CENTRALIZATION IN COMPETING SUPPLY CHAINS

*Discussant: Patricia Rogetzer, Austria*

**10.45-11.30**

**Alessandro Brun and Hakan Karaosman**

BESPOKE SUPPLY CHAINS: TRANSFORMING LUXURY SUPPLY NETWORKS FOR THE 'SEE NOW BUY NOW' REVOLUTION

*Discussant: Jukka Hallikas, Finland*

**STREAM F (Saal New Orleans)**

**Manufacturing Management**

**Chairman: Professor Yuji Sato, Japan**

**08.00-08.45**

**Marloes Korendijk and Wout van Wezel**

A TYPOLOGY OF PSYCHOLOGICAL OWNERSHIP IN MANUFACTURING

*Discussant: Fabio Sgarbossa, Italy*

**08.45-09.30**

**Andreas Myrelid and Jan Olhager**

HYBRID MANUFACTURING ACCOUNTING IN MIXED PROCESS ENVIRONMENTS: A METHODOLOGY AND AN ILLUSTRATION

*Discussant: Matthias Wichmann, Germany*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Willem Haanstra and A.J.J. Braaksma**

LIFE CYCLE COSTING IN PHYSICAL ASSET MANAGEMENT: A MULTIPLE CASE STUDY

*Discussant Ming Lim, United Kingdom*

**10.45-11.30**

**Imre Dobos, Grigory Pishchulov and Ralf Gössinger**

CONTROLLING A REVERSE LOGISTICS SYSTEM WHEN ITEMS RETURN WITH CYCLE DEPENDENT QUALITY

*Discussant: Gert Zülch, Germany*



**STREAM D (Saal Freiburg 1)**

**Lean & Six Sigma**

**Chairman: Professor Stefan Minner, Germany**

**19.00-19.45**

**Matteo Rossini and Alberto Portioli Staudacher**

LEAN SUPPLY CHAIN PLANNING: IMPORTANCE OF SC PARTNERS INVOLVEMENT

*Discussant: Jukka Majava, Finland*

**19.45-20.30**

**Eduardo Camargo, Fredrik Persson and Helene Lidestam**

HUMAN ASPECTS OF LEAN PRODUCTION

*Discussant: Matthias Holweg, United Kingdom*

**20.30-21.15**

**Jukka Majava, Harri Haapasalo and Kirsi Aaltonen**

VISUAL CONTROL IN A BIG ROOM IN CONSTRUCTION

*Discussant: Dávid Losonci, Hungary*

**STREAM E (Saal Freiburg 2)**

**Supply Chain Management**

**Chairman: Professor Anders Segerstedt, Sweden**

**19.00-19.45**

**Nikunja Mohan Modak, Peter Kelle and Helmut Schneider**

USING SOCIAL WORK DONATION AS A TOOL OF CSR IN A TWO-ECHELON CLOSED-LOOP SUPPLY CHAIN UNDER DEMAND UNCERTAINTY

*Discussant: Huiping Ding, China*

**19.45-20.30**

**Jukka Hallikas, Mika Immonen, Saara Brax and Kari Korpela**

SUPPLY CHAIN DIGITALIZATION AND PERFORMANCE: THE ROLE OF DATA ANALYTICS IN CAPTURING VALUE FROM SC INFORMATION SYSTEMS

*Discussant: Grigory Pishchulov, United Kingdom*

**20.30-21.15**

**Yuji Sato, Ying Kei (Mike) Tse and Kim Hua Tan**

COMPARATIVE STUDY ON SUPPLY DISRUPTION RISK: CASES BETWEEN DEVELOPED AND DEVELOPING COUNTRIES

*Discussant: Peter Kelle, USA*

**STREAM F (Saal New Orleans)**

**Manufacturing Management**

**Chairman: Professor Krisztina Demeter, Hungary**

**19.00-19.45**

**Lea Hannola, Alexander Richter, Melanie Steinhüser, Marlene Schafner and Francisco José Lacueva-Pérez**  
IMPACTS OF DIGITAL INTERVENTIONS ON THE SHOP FLOOR

*Discussant: Mohamed Zied Babai, France*

**19.45-20.30**

**Malin Johansson and Jan Olhager**

EMPIRICAL ANALYSIS OF MANUFACTURING LOCATION FACTORS IN THE CONTEXT OF OFFSHORING AND BACKSHORING

*Discussant: David Z. Zhang, United Kingdom*

**20.30-21.15**

**Levente Szász, Béla Rácz, Maike Scherrer and Patricia Deflorin**

STRENGTHENING PLANT POSITION IN MULTINATIONAL COMPANIES BY TRANSITIONING TOWARDS KNOWLEDGE SENDING ROLES

*Discussant: Aris Syntetos, United Kingdom*

**WEDNESDAY, February 21**

**STREAM G (Saal Aalborg)**

**Assembly Lines**

**Chairman: Professor Per J. Agrell, Belgium**

**08.00-08.45**

**Robert Refflinghaus and Christian Kern**

AVOIDING ERROR COSTS IN MANUAL ASSEMBLY  
OPERATIONS THROUGH THE ASSEMBLY PLANNING  
METHOD MTQM

*Discussant: Serena Finco, Italy*

**08.45-09.30**

**Zsuzsanna Hauck**

CAPACITY UTILIZATION IN JIT MANUFACTURING  
SYSTEMS

*Discussant: Daria Battini, Italy*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Muhammet Fatih Çengil, Erine Albey and Görkem Yılmaz**

A HIERARCHICAL APPROACH FOR ASSEMBLY LINE  
BALANCING AND COMPETENT WORKER  
ASSIGNMENT PROBLEM

*Discussant: Zsuzsanna Hauck, Hungary*

**10.45-11.30**

**Dorothea Calmels, Chandrasekharan Rajendran and Hans  
Ziegler**

THE TOOL SWITCHING PROBLEM WITH NON-  
IDENTICAL PARALLEL MACHINES AND  
APPLICATION TO A REAL-WORLD CASE STUDY

*Discussant Muhammet Fatih Çengil, Turkey*

**STREAM G (Saal Aalborg)**

**Assembly Lines**

**Chairman: Professor Lujie Chen, China**

**19.00-19.45**

**Amine M. Abdous, Xavier Delorme, Daria Battini, Fabio  
Sgarbossa and Sandrine Berger-Douce**

ASSEMBLY LINE BALANCING PROBLEM WITH  
CONSIDERATION OF WORKERS FATIGUE AND  
RECOVERY

*Discussant: Dorothea Calmels, Germany*

**19.45-20.30**

**Daria Battini, David Bogataj, Martina Calzavara and  
Alessandro Persona**

THE AGING WORKFORCE PROBLEM IN EUROPEAN  
INDUSTRIAL SYSTEMS: DECISION SUPPORT MODEL  
AND TRADE-OFF ANALYSIS

*Discussant: Robert Refflinghaus, Germany*

**20.30-21.15**

**Daria Battini, Martina Calzavara, Serena Finco,  
Alessandro Persona and Fabio Sgarbossa**

BIG SIZE PRODUCTS ASSEMBLY SYSTEM DESIGN: A  
LITERATURE REVIEW AND FUTURE RESEARCH  
AGENDA

*Discussant: Federica Costa, Italy*

**THURSDAY, February 22**

**STREAM A (Saal Strassburg 1)**

**Production Planning & Control**

**Chairman: Professor Layek Abdel-Malek, USA**

**8.00-8.45**

**Rifat G. Ozdemir and Abdulelah Ali**

HIERARCHICAL PRODUCTION PLANNING APPROACH  
IN A CONTINUOUS PRODUCTION SYSTEM:  
A CASE STUDY

*Discussant: Boualem Rabta, Austria*

**08.45-09.30**

**Violetta G. Cannas, Jonathan Gosling, Margherita Pero  
and Tommaso Rossi**

AN EXPLORATORY EMPIRICAL STUDY OF  
ENGINEERING AND PRODUCTION DECOUPLING  
CONFIGURATIONS IN ETO MACHINERY INDUSTRY

*Discussant: Ralf Gössinger, Germany*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Sonja Strasser, Andreas Peirleitner, Klaus Altendorfer,  
Carina Jenewein and Herbert Jodlbauer**

THE EFFECT OF SAFETY STOCK RELAXATION AND  
DYNAMIC PLANNED LEAD TIME WITHIN THE MCRP  
ALGORITHM IN A SIMPLE MANUFACTURING  
STRUCTURE

*Discussant: Marija Bogataj, Slovenia*

**10.45-11.30**

**Ralf Gössinger, Grigory Pishchulov and Imre Dobos**

ARTICLE-TO-DEVICE ASSIGNMENT AND MANPOWER  
ALLOCATION FOR A HETEROGENEOUS ORDER  
PICKING SYSTEM

*Discussant: Emanuele Borgonovo, Italy*

**STREAM B (Saal Strassburg 2)**

**General Production Economics**

**Chairman: Professor Attila Chikán, Hungary**

**08.00-08.45**

**Peter Letmathe and Fehmi Muhsin Yüksel**

BEHAVIORAL ASPECTS OF TACIT KNOWLEDGE:  
ROLE OF HIERARCHY AND EXPERTISE ON LEARNING  
NEW MANUFACTURING TASKS

*Discussant: Hawa Hishamuddin, Malaysia*

**08.45-09.30**

**Giovanni F. Massari, Ilaria Giannoccaro and Giuseppe  
Carbone**

ARE DISTRUST RELATIONSHIPS BENEFICIAL FOR  
GROUP PERFORMANCE? THE INFLUENCE OF THE  
SCOPE OF DISTRUST ON THE EMERGENCE OF  
COLLECTIVE INTELLIGENCE

*Discussant: Ilari Alén, Finland*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Fabiana Dafne Cifone, Federica Costa and Alberto Portioli  
Staudacher**

EXPLOITING EMPLOYEES' POTENTIALITIES  
THROUGH CONTINUOUS IMPROVEMENT PROGRAMS

*Discussant: S. Thomas Foster Jr, USA*

**10.45-11.30**

**Ilari Alén, Mikael Öhman, Riikka Kaipia and Risto Rajala**

EXPLORING THE DYNAMICS OF DEVELOPING THE  
ANALYTICS CAPABILITY

*Discussant: Jie (Kitt) Ma, United Kingdom*

**STREAM C (Saal Linköping)**

**Performance Management**

**Chairman: Professor Fabio Sgarbossa, Italy**

**08.00-08.45**

**Alka Nand**

ACHIEVING OPERATIONAL EFFICIENCIES IN SERVICE  
OPERATIONS: AN IN-DEPTH STUDY OF EMERGENCY  
DEPARTMENT (ED) PERFORMANCE IN SELECT  
AUSTRALIAN PUBLIC HOSPITALS

*Discussant: Nicolaas Van Dijk, The Netherlands*

**08.45-09.30**

**Henny P.G. van Ooijen and J. Will M. Bertrand**

THE EFFECT OF DUE-DATE DRIVEN CAPACITY  
ADJUSTMENTS ON DELIVERY PERFORMANCE AND  
COSTS IN JOB SHOPS WITH EXOGENOUS DUE-DATES

*Discussant: Jan Olhager, Sweden*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Arto Tolonen, Janne Harkonen, Harri Haapasalo and  
Hannu Hannila**

PERFORMANCE MANAGEMENT OF THE  
MANUFACTURING SERVICES PRODUCT PORTFOLIO

*Discussant: Bertha Viviana Ruales Guzman, Colombia*

**10.45-11.30**

**Veronica Lindström**

LINKAGES BETWEEN ATTRIBUTES OF SME:S AND  
MANUFACTURING PERFORMANCE MEASURES

*Discussant: Andreas Günter, Germany*

**STREAM A (Saal Strassburg 1)**

**Production Planning & Control**

**Chairman: Professor Gerard J.C. Gaalman, The Netherlands**

**19.00-19.45**

**Nuno O. Fernandes, Matthias Thürer, Tatiana M. Pinho, Pedro Torres and S. Carmo Silva**  
SIMULATION OPTIMIZATION: A NEW JOB RELEASE APPROACH FOR INDUSTRY 4.0

*Discussant: David Bogataj, Italy*

**STREAM B (Saal Strassburg 2)**

**Servitization**

**Chairman: Professor Attila Chikán, Hungary**

**19.00-19.45**

**Sariseelia Sore, Minna Saunila, Juhani Ukko and Hannu Rantanen**  
THE IMPACT OF PRODUCT, SERVICE AND RELATIONSHIP CAPABILITIES ON DIGITAL SERVICE PERFORMANCE

*Discussant: Jan Trockel, Germany*

**19.45-20.30**

**Janne Harkonen, Arto Tolonen and Harri Haapasalo**

MODELLING OF MANUFACTURING SERVICES AND PROCESSES FOR EFFECTIVE PRODUCTISATION

*Discussant: Dinh Anh Phan, France*

**STREAM C (Saal Linköping)**

**Scheduling**

**Chairman: Stephen M. Disney, United Kingdom**

**19.00-19.45**

**Daria Battini and Francesco Zangaro**

INTEGRATING ROUTING AND SCHEDULING DECISIONS FOR ENHANCING THE PART FEEDING IN AN AUTOMOTIVE ENVIRONMENT

*Discussant: Anders Segerstedt, Sweden*

**19.45-20.30**

**Christopher Valentin Bersch, Renzo Akkerman and Rainer Kolisch**

MODELLING THE STRATEGIC PLANNING OF PLATFORM-BASED PRODUCT INTRODUCTIONS IN THE AUTOMOTIVE INDUSTRY

*Discussant: Rifat G. Özdemir, Kuwait*

**THURSDAY, February 22**  
**STREAM D (Saal Freiburg 1)**  
**Logistics**  
**Chairman: Professor Alexandre Dolgui, France**

**08.45-09.30**  
**Pinja Raitasuo, Markku Kuula, Alex Ruiz-Torres and Max Finne**  
GREEN CAPABILITIES AND PERFORMANCE  
OUTCOMES IN THE LOGISTICS SECTOR  
*Discussant: Bernhard Oberegger, Austria*

**Coffee Break 9.30-10.00**

**10.00-10.45**  
**Alexander Hübner, Markus Frank, Andreas Holzapfel, Heinrich Kuhn, and Manuel Ostermeier**

OPTIMIZING ROUTING AND DELIVERY PATTERNS  
WITH MULTI-COMPARTMENT VEHICLES  
*Discussant: Fredrik Persson, Sweden*

**10.45-11.30**  
**Nikolai Holeczek, Chandrasekharan Rajendran and Hans Ziegler**  
A HEURISTIC SOLUTION METHOD FOR THE  
HAZARDOUS MATERIALS VEHICLE ROUTING  
PROBLEM IN URBAN AREAS  
*Discussant: Dora Naletina, Croatia*

**STREAM E (Saal Freiburg 2)**  
**Supply Chain Management**  
**Chairman: Professor Hubert Missbauer, Austria**

**08.00-08.45**  
**Peng He and Yong He**

CHANNEL SELECTION AND PRICING DECISIONS FOR  
NEW AND REMANUFACTURED PRODUCTS  
*Discussant: Luke Treves, Finland*

**08.45-09.30**  
**Xiaoyu Gu, Petros Ieromonachou and Li Zhou**

AN IMPERFECT INFORMATION GAME IN  
SUBSIDIZING ELECTRIC VEHICLE SUPPLY CHAIN  
*Discussant: Yibin (Robbin) Zhang, China*

**Coffee Break 9.30-10.00**

**10.00-10.45**  
**Takamichi Hosoda**

CONSIGNMENT CONTRACT WITH EXOGENOUS  
RETAIL PRICE  
*Discussant: Hing Kai Chan, China*

**10.45-11.30**  
**Huiping Ding, Xiangbo Chen and Kuanhai Lin**

COLLABORATIVE MECHANISM OF PROJECT PROFIT  
ALLOTMENT IN PETROLEUM ENGINEERING SERVICE  
SUPPLY CHAIN  
*Discussant: Yingli Wang, United Kingdom*

**STREAM F (Saal New Orleans)**  
**Manufacturing Management**  
**Chairman: Professor Alessandro Brun, Italy**

**08.00-08.45**  
**Nikolay Kazantsev, Nikolay Mehandjiev, Konstantina Vassilopoulou and Grigory Pishchulov**  
RISKS AND BENEFITS OF COLLABORATION IN  
INDUSTRY 4.0 PRODUCTION NETWORKS  
*Discussant Gilson Adamczuk Oliveira, Brazil*

**08.45-09.30**  
**Bálint Horváth, Krisztina Demeter, Dávid Losonci and Judit Nagy**  
EXPERIENCES WITH INDUSTRY 4.0  
– A CASE BASED ANALYSIS  
*Discussant: Rikke V. Matthiesen, Denmark*

**Coffee Break 9.30-10.00**

**10.00-10.45**  
**Libório de Oliveira Júnior, Gilson Adamczuk Oliveira, Marcelo Gonçalves Trentin, Leanne Chung and Kim Hua Tan**  
MATURITY MODELS FOR INDUSTRY 4.0 IN  
DEVELOPING COUNTRIES: A CONCEPTUAL  
FRAMEWORK FOCUSING ON THE ANIMAL FEED  
INDUSTRY  
*Discussant: Levente Szász, Romania*

**10.45-11.30**  
**Gongtao Zhang, Bart L. MacCarthy, Kul Pawar and Svetan Ratchev**  
MANUFACTURING IN THE CLOUD: EXPLORING  
FUTURE PLATFORM-BASED MANUFACTURING  
SCENARIOS  
*Discussant: Nikolay Kazantsev, United Kingdom*

**STREAM D (Saal Freiburg 1)**

**Logistics**

**Chairman: Professor Gert Zülch, Germany**

**19.00-19.45**

**Kingshuk Jubaer Islam, Sanja Petrovic and Alexander Trautrim**

CO2 EMISSION COSTS IN A MULTI-OBJECTIVE  
VEHICLE ROUTING PROBLEM WITH SIMULTANEOUS  
PICKUP AND DELIVERY

*Discussant: Alexander Hübner, Luxembourg*

**19.45-20.30**

**Paul Buijs , Wout van Wezel, and Lotte van Dooren**

MITIGATING SOCIAL & COGNITIVE BARRIERS TO  
HORIZONTAL COLLABORATION IN LOGISTICS

*Discussant: Hans Ziegler , Germany*

**STREAM E (Saal Freiburg 2)**

**Supply Chain Management**

**Chairman: Professor Marija Bogataj, Slovenia**

**19.00-19.45**

**Grigory Pishchulov, Alexander Trautrim, Thomas Chesney and Stefan Gold**

THE VOTING ANALYTIC HIERARCHY PROCESS  
REVISITED: APPLICATION TO SUSTAINABLE  
SUPPLIER SELECTION

*Discussant: Chunming (Victor) Shi, Canada*

**19.45-20.30**

**Luke Treves**

BUSINESS DESIGN CHALLENGES IN THE INTERNET  
OF THINGS (IOT) SERVICE SUPPLY CHAINS: A  
LITERATURE REVIEW

*Discussant: Samuel Fosso Wamba , Australia*

**STREAM F (Saal New Orleans)**

**Manufacturing Management**

**Chairman: Professor Bartholomew L. MacCarthy,  
United Kingdom**

**19.00-19.45**

**Rikke V. Matthiesen and Lene Kromann**

EMPIRICAL TEST OF A PROCESS MODEL OF  
MANUFACTURING STRATEGY FORMATION OVER  
TIME

*Discussant: Christopher Valentin Bersch, Germany*

**19.45-20.30**

**Maurício Radaelli Moraes, Marcelo Gonçalves Trentin,  
Gilson Adamczuk Oliveira, Leanne Chung  
and Kim Hua Tan**

OPTIMIZATION OF RAW MILK ALLOCATION AT THE  
RECEPTION IN DAIRY PROCESSING UNITS FOCUSED  
ON THE PRODUCTION OF MOZZARELLA CHEESE

*Discussant: Andreas Myrelid, Sweden*

**THURSDAY, February 22**

**STREAM G (Saal Aalborg)**

**Energy & Resource Efficiency**

**Chairman: Professor Ruud H. Teunter, The Netherlands**

**08.00-08.45**

**Ming-Lang Tseng, Ming Lim and Kuo-Jui Wu**

RESOURCE MANAGEMENT PRACTICE THROUGH  
ECO-INNOVATION TOWARD SUSTAINABLE  
DEVELOPMENT

*Discussant: James M. Wakiru, Belgium*

**08.45-09.30**

**Qiang Du, Xinran Lu and Libiao Bai**

CARBON EMISSIONS IN CHINA'S CONSTRUCTION  
INDUSTRY: CALCULATIONS, FACTORS AND REGIONS

*Discussant: Christoph Johannes, Germany*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**James M. Wakiru, Liliane Pintelon, Peter N. Muchiri  
and Peter K. Chemweno**

INFLUENCE OF MAINTENANCE AND OPERATIONS  
STRATEGIES ON THE AVAILABILITY OF CRITICAL  
POWER PLANT EQUIPMENT: A SIMULATION  
APPROACH

*Discussant: Du Qiang, China*

**10.45-11.30**

**Ilkka M. D. Donoghue, Kirsi Kokkonen and Lea Hannola**

THE ROLE OF BUSINESS MODELS IN CREATING  
VALUE IN A B2B ECO-SYSTEM

*Discussant: Ming-Lang Tseng, Taiwan*

**STREAM G (Saal Aalborg)**

**Energy & Resource Efficiency**

**Chairman: Professor Huiping Ding, China**

**19.00-19.45**

**Christoph Johannes, Matthias G. Wichmann and Thomas  
S. Spengler**

ENERGY-ORIENTED LOTSIZING AND SCHEDULING  
WITH VOLATILE ENERGY PRICES

*Discussant: Simone Zanoni, Italy*

**19.45-20.30**

**Matthias G. Wichmann, Christoph Johannes and Thomas  
S. Spengler**

ECONOMIC AND ENERGY SAVING POTENTIAL OF  
ENERGY STORAGES IN ENERGY-ORIENTED  
LOTSIZING AND SCHEDULING

*Discussant: Qinyun Li, United Kingdom*

**FRIDAY, February 23**

**STREAM A (Saal Strassburg 1)**  
**Production Planning & Control**  
**Chairman: Professor D. Clay Whybark, USA**

**08.00-08.45**

**Federica Costa and Alberto Portioli Staudacher**  
IMPACT OF OUTPUT CONTROL MECHANISM  
REALIZED THROUGH LABOUR FLEXIBILITY  
WITHIN WORKLOAD CONTROL THEORY  
*Discussant: Stefan Haeussler, Austria*

**08.45-09.30**

**Stefan Haeussler and Pia Netzer**  
COMPARISON BETWEEN RULE- AND  
OPTIMIZATION BASED WORKLOAD CONTROL  
CONCEPTS: A SIMULATION-BASED OPTIMIZATION  
APPROACH

*Discussant: Borja Ponte, United Kingdom*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Li Zhou and Robert W. Grubbström**  
RESEARCH ON CORE ACQUISITION PRICING  
STRATEGY IN A MANUFACTURING AND  
REMANUFACTURING HYBRID SYSTEM  
*Discussant: Haokun Liu, United Kingdom*

**STREAM B (Saal Strassburg 2)**  
**Servitization**  
**Chairman:**

**08.00-08.45**

**Haokun Liu, R. Mason, Laura Purvis and P. Wells**  
A SERVICE ECOSYSTEMS PERSPECTIVE ON  
INNOVATION IN DISTRIBUTED MANUFACTURING  
SUPPLY CHAINS  
*Discussant: Sariseelia Sore, Finland*

**08.45-09.30**

**Bart L. MacCarthy, Lina Zhang and Luc Muyldermans**  
EXTENDING ONLINE ORDER CUT-OFF TIMES - HOW  
LATE IS NOT TOO LATE?

*Discussant: Bertrand M.T. Lin, Taiwan*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Günter Fandel and Jan Trockel**  
THE CREATION OF ADDED VALUES IN SERVICE  
PRODUCTION AND SERVICE OPERATIONS AND THEIR  
INFLUENCES ON THE ALLOCATION OF ORDERS  
*Discussant: Martina Calzavara, Italy*

**10.45-12.00**

**CLOSING SESSION (Saal Brüssel)**  
**Chairman: Professor Robert W. Grubbström, Sweden**

**Panel reporting highlights from the presentation of papers**

**STREAM C (Saal Linköping)**  
**Lean & Six Sigma**  
**Chairman: Professor Daria Battini, Italy**

**08.00-08.45**

**Matthias Holweg, John Bicheno**  
THE SCIENCE OF LEAN (AND SIX SIGMA): KINGMAN'S  
FORMULA REVISITED

*Discussant: Fabiana Dafne Cifone, Italy*

**08.45-09.30**

**Dávid Losonci, Richárd Kása and Richárd Szántó**  
COMPETENCES AND METHODS IN LEAN CONTEXT

*Discussant: Andreas Felsberger, Austria*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Roberto Panizzolo and Alberto Maria de Crescenzo**  
ASSESSING LEAN MANUFACTURING WITHIN SMES  
ACCORDING TO FIRMS ORGANIZATIONAL  
CHARACTERISTICS  
*Discussant: Kuen S. Chen, China*



**FRIDAY, February 23**

**STREAM D (Saal Freiburg 1)**

**Logistics**

**Chairman: Professor Imre Dobos, Hungary**

**08.00-08.45**

**Boualem Rabta, Christian Wankmüller and Gerald Reiner**

A DRONE FEET MODEL FOR LAST-MILE DISTRIBUTION IN DISASTER RELIEF OPERATIONS

*Discussant: Paul Buijs, The Netherlands*

**08.45-09.30**

**Dora Naletina, Kristina Petljak and Ivana Štulec**

OUTSOURCING AS A TOOL FOR ACHIEVING A COMPETITIVE ADVANTAGE IN ROAD FREIGHT INDUSTRY: THE CASE OF CROATIA

*Discussant: Alexander Trautrim, United Kingdom*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Bernhard Oberegger, Paul Ladinig, Boualem Rabta and Gerald Reiner**

INTEGRATED DEMAND AND CAPACITY MANAGEMENT FOR CABIN-BASED TRANSPORT SYSTEMS

*Discussant: Nikolai Holeczek, Germany*

**STREAM E (Saal Freiburg 2)**

**Forecasting**

**Chairman: Professor Huiping Ding, China**

**08.45-09.30**

**Dennis Prak, Ruud H. Teunter, Aris A. Syntetos, John E. Boylan and Mohamed Zied Babai**

INTERMITTENT DEMAND FORECASTING WHEN DEMAND DATA IS AGGREGATED

*Discussant: Hakan Karaosman, Italy*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Ruud H. Teunter, Mohamed Zied Babai, Aris A. Syntetos and Jos Bokhorst**

ON THE VALUE OF SHARING INFORMATION: EFFECTS OF THE DEMAND PROCESS AND FORECAST METHOD

*Discussant: Jinou Xu, Italy*

**10.45-12.00**

**CLOSING SESSION (Saal Brüssel)**

**Chairman: Professor Robert W. Grubbström, Sweden**

**Panel reporting highlights from the presentation of papers**

**STREAM F (Saal New Orleans)**

**Manufacturing Management**

**Chairman: Professor Marija Bogataj, Slovenia**

**08.00-08.45**

**Gert Zülch and Thorsten Vollstedt**

QUALIFICATION AND DEPARTMENTAL ORGANIZATION OF INDUSTRIAL MAINTENANCE - STAFF-ORIENTED AND PRODUCTION-ECONOMICAL ASSESSMENT BY MEANS OF MODELING AND SIMULATION

*Discussant: Krisztina Demeter, Hungary*

**08.45-09.30**

**Andreas Felsberger, Boualem Rabta and Gerald Reiner**

QUEUING NETWORK MODELLING FOR IMPROVED DECISION SUPPORT IN MANUFACTURING SYSTEMS

*Discussant: Christopher Valentin Bersch, Germany*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**Hannu Hannila, Arto Tolonen, Janne Harkonen and Harri Haapasalo**

THE ROLE OF PRODUCTION-RELATED BUSINESS DATA IN PRODUCT PORTFOLIO MANAGEMENT

*Discussant: Wout van Wezel, The Netherlands*

**FRIDAY, February 23**

**STREAM G (Saal Aalborg)**

**Energy & Resource Efficiency**

**Chairman: Professor Geert Waeyenbergh, Belgium**

**08.00-08.45**

**B. Marchi, Simone Zanoni, Lucio E. Zavanella and M. Y. Jaber**

SUPPLY CHAIN MODELS WITH GREENHOUSE GASES EMISSIONS, ENERGY USAGE, IMPERFECT PROCESS UNDER DIFFERENT COORDINATION DECISIONS

*Discussant: Ilkka M.D. Donoghue, Finland*

**08.45-09.30**

**Ou Tang and Jakob Rehme**

HYDROGEN PRODUCTION IN SWEDISH NUCLEAR POWER SECTOR – AN INVESTIGATION OF OPERATIONAL AND LONG-TERM UNCERTAINTIES

*Discussant: Kingshuk Jubaer Islam, United Kingdom*

**Coffee Break 9.30-10.00**

**10.00-10.45**

**I. Ferretti, Simone Zanoni and Lucio E. Zavanella**

ENERGY SAVINGS IN REHEATING FURNACES THROUGH PROCESS MODELLING

*Discussant: Christian Wankmüller, Austria*

**10.45-12.00**

**CLOSING SESSION (Saal Brüssel)**

**Chairman: Professor Robert W. Grubbström, Sweden**

**Panel reporting highlights from the presentation of papers**