CPSL 2023 - 2

CPSL

Conference on Production Systems and Logistics

November 14 – 17, 2023
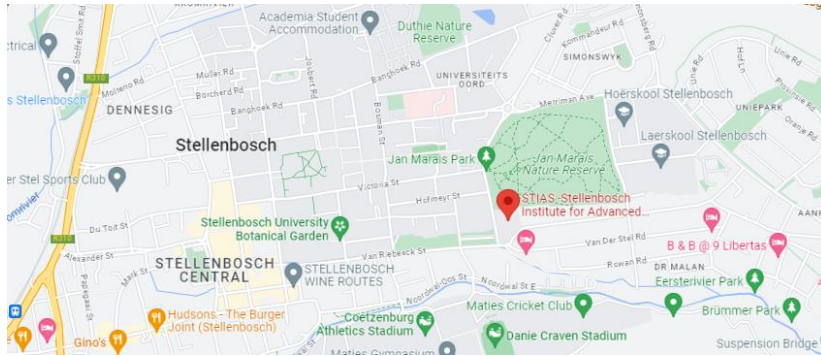Stellenbosch – South Africa

CONFERENCE PROGRAM

publish-Ing.

IMPORTANT LOCATIONS

CONFERENCE SESSIONS
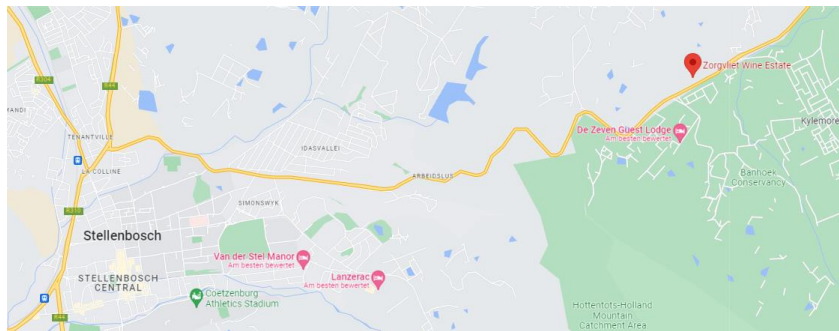
STIAS – STELLENBOSCH INSTITUTE FOR ADVANCED STUDY

Marais Rd, Mostertsdrift, Stellenbosch, 7600

REGISTRATION EVENT & WINETASTING
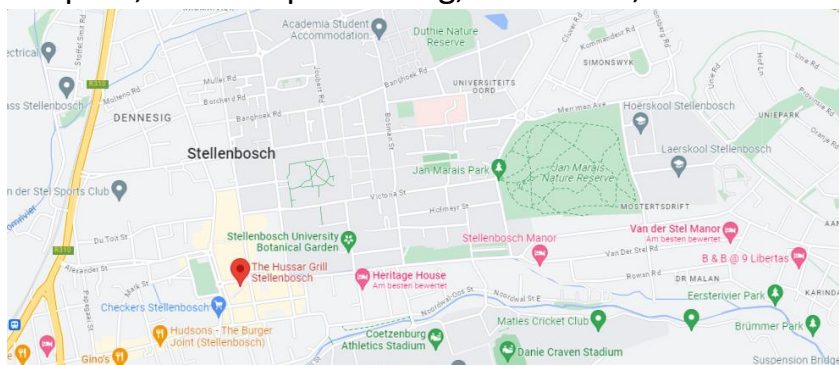
ZORGVLIET WINE ESTATE (14TH OF NOVEMBER, 14:00H)

Banghoek Valley, Helshoogte Rd, Stellenbosch, 7600

GALA DINNER

THE HUSSAR GRILL STELLENBOSCH (16 TH OF NOVEMBER, 19:00H)

Shop G3, Good Hope Building, 23 Plein St, Stellenbosch, 7600

SESSION CHAIR

For the conference, we have assigned session chairs to all sessions. The selection has been made randomly. All selected session chairs will give their own presentation in the following or preceding session. Personal preferences could not be considered during the selection process - we kindly ask all designated session chairs conduct the task to the best of their knowledge and belief. If you are session chair, you will find your name in the list below.

As a session chair, your main responsibility is to keep the session running smoothly, to ensure that all presenters have the opportunity to share their research effectively, and to stick to the set schedule. Here are some key instructions on what you need to do:

1. **Familiarize yourself with the schedule and the presentations**: Before the session begins, make sure you know the order of presentations, the titles of the talks, and the names of the presenters (not by heart but with the help of this program).
2. **Introduce the session and presenters**: Begin the session by welcoming the audience and introducing the speaker and their institute before each presentation.
3. **Keep the time**: It is crucial to keep the session running on schedule. Make sure that each presenter has the time to present their research (max. 20min. incl. questions). You can use a timer to signal when the time is up. Give the presenter a notice when 2 minutes are left to finish their presentation.
4. **Ask questions**: After each presentation, give the audience an opportunity to ask questions. Encourage them to ask clarifying questions or seek additional information about the research. All session chairs are of course also welcome to ask their questions – especially if there are not many questions from the audience.
5. **Help with opening presentations**: If a presenter encounters technical difficulties with the CPSL notebook or their own notebook, offer to help troubleshoot the issue or contact technical support for assistance. You will find all uploaded presentations in a folder on the CPSL notebooks desktop.

Session 2.1	MAXIMILIAN LECHNER
Session 2.2	PIA MOZER
Session 2.3	KERIM TOROLSAN
Session 3.1	JUSTIN HOOK
Session 3.2	HENRY HIMMELSTOSS
Session 3.3	NILS FÖHLISCH
Session 6.1	JESSICA SCHMIED
Session 6.2	DINO HARDJOSUWITO
Session 6.3	YVONNE EBOUMBOU EBONGUE
Session 7.1	JOHANNES SEITZ
Session 7.2	LEONARD RIEKE
Session 7.3	AILEEN BLONDRATH
Session 10.1	SHIVA ABDOLI
Session 10.2	PATRICK BRANDTNER
Session 11.1	MARCO WURSTER
Session 11.2	ROMAN UNGERN-STERNBERG

GENERAL INFORMATION

Online Session

You can participate in the online sessions via the following link: **Click here to join the meeting**

Please make sure your speakers/headset are working and your microphone is muted before entering the session.

Networking Event & Registration

To kick off the conference, we will meet at the **ZORGVLIET WINE ESTATE on November 14, 2023,** at 2 pm. There will be a short registration of all participants and the handover of the conference goodie bags and name badges.

Afterwards, the informal networking event will start in a pleasant atmosphere accompanied by an outstanding wine tasting.

The event will end around 5pm. Networking can optionally continue afterwards in smaller groups over dinner or in a bar in Stellenbosch city center.

Dresscode

The dress code for the entire conference is smart casual.

KEYNOTE SPEAKER

Sustainability of Future Manufacturing Systems

Sebastian Thiede, Prof. Dr.-Ing.

Full Professor, Chair Of Manufacturing Systems at University of Twente

Technological advancements over the last decades lead to significant changes in the design and operation of manufacturing systems and those developments are likely to continue in the future. The introduction of advanced manufacturing approaches such as flexible (matrix) manufacturing systems, additive manufacturing, stronger robotization/automation as well as the introduction of digital support solutions certainly incorporate promising potentials in terms of productivity and flexibility. But the question remains to which extend those approaches can also contribute to an improved sustainability of manufacturing systems – are there inherent advantages or also potentially challenges and conflicts of goals?

Providing a Roadmap for Small and Medium Sizes Industries Towards Sustainable Manufacturing Processes

Due to the current growth rate of the world's consumption and supply chain challenges, developing and implementing a sustainable manufacturing process is essential. The US Environmental Protection Agency states, "A sustainable manufacturing process makes products using methods that reduce environmental impacts while concurrently conserving energy and natural resources." Sustainable manufacturing process implementation in small and medium size industries has been challenging and met with limited success. This presentation will focus on implementing the principles of the sustainable manufacturing process, such as the 6Rs (Reduce, Reuse, Recycle, Recovery, Redesign, and Remanufacture) in a (small/medium scale) cutting tool company. The presentation will focus on case studies such as reducing cutting fluid usage, improving manufacturing efficiency through automation, recycling cemented carbide, revamping the manufacturing process to reduce the supply chain impact, etc. Through academic and industrial collaboration, the presentation will propose a roadmap for sustainable manufacturing processes for small and medium size industries.

Sekhar Rakurty, PhD

The M. K. Morse Company

Research – Industry Collaboration: Joining Forces for the Acceleration of E-Mobility Production

The current dynamics of e-mobility innovation are without example; technological challenges meet promising potential with a market craving for solutions. Hence, time to market is the critical key enabler to commercial success. For this, the driving forces are fast transitions of innovation from the laboratory environment into industrial operation. Systematization of this "Innovation Chain" offers decisive advantages, here showcased for the innovation of battery production technologies.

Simon Voss, M.Sc.

Managing Director E-Mobility Lab of RWTH Aachen University & Head of E-Mobility Office of RWTH Aachen University

CPSL

Conference on Production Systems and Logistics

Stellenbosch, South Africa – November 14 – 17, 2023

Overview Conference Program

	Tuesday November 14, 2023	Wednesday November 15, 2023			Thursday November 16, 2023			Friday November 17, 2023	
9.00 am – 9.30 am		Welcome Speech							
9.30 am – 10.00 am		Keynote Speech: Prof. Dr. Sebastian Thiede			Keynote Speech: Sekhar Rakurty, PhD			Keynote Speech: Simon Voss, M.Sc.	
10.00 am – 10.40 am		Session 1			Session 5			Session 9	
10.40 am – 11.00 am		Break			Break			Break	
11.00 am – 12.40 pm	Reception and networking event incl. wine tasting at **ZORGVLIET WINE ESTATE** 2.00 pm – 5.00 pm	Session 2.1	Session 2.2	Session 2.3	Session 6.1	Session 6.2	Session 6.3	Session 10.1	Session 10.3
12.40 pm – 1.40 pm		Lunch			Lunch			Lunch	
1.40 pm – 3.20 pm		Session 3.1	Session 3.2	Session 3.3	Session 7.1	Session 7.2	Session 7.3	Session 11.1	Session 11.3
3.20 pm – 3.50 pm		Break			Break				
3.50 pm – 4.30 pm		Session 4			Session 8				
4.30 pm – 7.30 pm					Break				
7.00 pm – 11.30 pm					Gala Dinner				

On-site session   Online session

Tuesday 14 Nov. 2023

14:00 - 17:00	**Networking Event & Registration** *@ Zorgvliet Wine Estate*

Wednesday 15 Nov. 2023

KEYNOTE

09:00 - 09:30 — **Welcome Speech**
Organizing Committee

KEYNOTE

09:30 - 10:00 — **Sustainability of future manufacturing systems**
Prof. Dr.-Ing. Sebastian Thiede

Session 1.1 @Room 1

10:00 - 10:40

#1 Identification of Text Mining Use Cases In Manufacturing Companies
Florian Clemens, Hasan Hüseyin Özdemir, Günther Schuh

#2 Framework For The Rapid Development And Deployment Of Customized Industrial Robotic Applications
Paul Geng, Lisa Heuss, Thomas Rauh, Julian Müller, Rüdiger Daub

10:40 - 11:00	Break

Session 2.1 @Room 1 Chair: Maximilian Lechner
#Factory planning, #Operations, #Process Models

11:00 - 12:40

#3 Planning And Controlling Multi-Project Environments In The Factory
Justin Hook, Lars Nielsen, Peter Nyhuis

#4 Towards Enabling Human-Robot Collaboration in Industry: Identification of Current Implementation Barriers
Johannes Bauer, Mohammed-Amine Abdous, Sebastian Kurscheid, Flavien Lucas, Guillaume Lozenguez, Rüdiger Daub

#5 Testing The Limits: A Robustness Analysis Of Logistic Growth Models For Life Cycle Estimation During The COVID-19 Pandemic
Louis Steinmeister, Burim Ramosaj, Leo Schröter, Markus Pauly

#6 Product Development through Co-Creation Communities - General Measures For A Distributed And Agile Planning Preparation in Cross-Company Production
Dominik Saubke

#7 Design Elements Of Corporate Functions In The Trade-Off Between Efficient Goal Achievement And Prevention Of Disturbance Impacts
Michael Riesener, Maximilian Kuhn, Jonas Tittel, Pawan Singh, Günther Schuh

Session 2.2 @Room 2 Chair: Pia Mozer
#Industry 4.0, #Deep Learning, #Digitalization

#8 A systematic literature review of communications standards in discrete manufacturing
Furkan Ercan, Maximilian Bega, Bernd Kuhlenkötter

#9 Conceptualizing A Digital Twin Based On The Asset Administration Shell For The Implementation Of Use Case Specific Digital Services
Henry Himmelstoss, Roland Hall, Bernd Vojanec, Paul Thieme, Thomas Bauernhansl

#10 An Approach For Analysis Of Human Interaction With Worker Assistance Systems Based On Eye Tracking And Motion Capturing
Fabian Hock, Joachim Metternich

#11 Machine Learning Driven Design Of Experiments For Predictive Models In Production Systems
Sebastian Maier, Patrick Zimmermann, Rüdiger Daub

#12 Investigation of Deep Learning Datasets for Intralogistics
Dimitrij-Marian Holm, Philipp Junge, Jérôme Rutinowski, Johannes Fottner

Session 2.3 @Online Chair: Kerim Torolsan
#Lean, #Assembly planning

#13 Classification Of Flow-Based Assembly Structures For The Planning Of Flexible Mixed-Model Assembly
Nils Föhlisch, Peter Burggräf, Tobias Adlon, Verena Meier

#14 A Production Model based in Lean 4.0 Principles And Machine Learning To Enhance The Productivity Of Small And Medium-Sized Enterprises (SMEs) In Peru's Food Manufacturing Sector
Adrian Ricardo Komori-Zevallos, Fernando Matias Montedoro-Garay, Yvan Jesus Garcia-Lopez, Juan Carlos Quiroz-Flores

#15 Improving OEE in a Peruvian SME: A Case Study on the Application of Lean Manufacturing Tools in the Metalworking Sector
Carlos Mundaca-Lopez, Christopher Villar-Farfan, Juan Carlos Quiroz-Flores, Yvan Jesús García-López

#16 Improvement Proposal To Increase Productivity Of A SME In The Primary Manufacturing Sector Using Standardized Labor and TPM Tools
Diego Niño De Guzmán-Lunarejo, Dahana Obregon-Leon, Alberto Flores-Perez

#17 Local Manufacturing - Strategic Operationalisation Of Lean Methods In Manufacturing-related Small And Medium-sized Enterprises (SME)
Dominik Saubke

12:40 - 13:40	Break
13:40 - 15:20	

Session 3.1 @Room 1 Chair: Justin Hook
#Battery, #Digitalization, #Decision Support

#18 Investigation Of Laser-Based Drying Of Electrodes For Lithium-IonBattery Production Using Vertical-Cavity Surface-Emitting Lasers (VCSEL)
Daniel Neb, Sebastian Wolf, Benedict Ingendoh, Simon Klein, Benjamin Dorn, Heiner Heimes, Achim Kampker

#19 Building a Knowledge Graph from Deviation Documentation for Problem-Solving on the Shop Floor
Yuxi Wang, Beatriz Bretones Cassoli, Joachim Metternich

#20 Material Flow Simulation in Lithium-Ion Battery Cell Manufacturing as a Planning Tool for Cost and Energy Optimization
Maximilian Lechner, Paul Mothwurf, Lasse Nohe, Rüdiger Daub

#21 Comparative Analysis of Lithium Metal Anode Production Methods: Evaluating Liquid-Based Manufacturing Technology for Mass Production and Overcoming Production Challenges for Next-Generation Battery Cells
Gerrit Bockey, Jan Felix Plumeyer, Sarah Wennemar, Benjamin Dorn, Heiner Hans Heimes, Achim Kampker

#22 Advancing Automation in Data Acquisition for Research-Scale Battery Production
Achim Kampker, Benjamin Dorn, Robert Ludwigs, Henning Clever, Felix Kirchmann

Session 3.2 @Room 2 Chair: Henry Himmelstoss
#Manufacturing, #Technology, #Competences

#23 DesignChain: Process Automation From Recording Of Customer Requirements To Production Release
Lars Rödel, Gregor Müller, Jonas Krebs, Timo Denner, Thomas Bauernhansl

#24 Towards a Service-Oriented Architecture for Production Planning and Control: A Comprehensive Review and Novel Approach
Sebastian Behrendt, Florian Stamer, Marvin Carl May, Gisela Lanza

#25 Identification Of Investigation Procedures To Predict Work Roll Fatigue For Developing Machine Learning Applications – A Systematic Literature Review
Tobias Moser, Johannes Seitz, Enes Alp, Bernd Kuhlenkötter

#26 The job role as a reference category for the design of continuing education in production companies
Pia Mozer, Bernd Dworschak

#27 Application of the dynamic tolerancing approach to the assembly of fuel cell stacks
Andreas Aichele, Oliver Mannuß, Alexander Sauer

Session 3.3 @Online Chair: Nils Föhlisch
#Energy, #Technology, #Digitalization

#28 Proposing a Solution for a Self-Managed Data-Ecosystem in Production: Use-Case-Driven IT-OT-Integration with an Event-Driven IT-Architecture
Sebastian Kremer, Christian Mennerich, Max-Ferdinand Stroh, Günther Schuh

#29 A Control Strategy Architecture for Energy Systems with Multiple-Energy-Carrier Devices
Kerim Torolsan, Mirja Mannigel, Janosch Hecker, Alexander Sauer

#30 Overview and Roadmap of Hydrogen Utilization in Industry
Laura Jung, Verena Lampret, Alexander Sauer

#31 Hype cycle assessment of emerging technologies for battery production
Achim Kampker, Heiner Heimes, Benjamin Dorn, Daniel Neb, Henning Clever, Jennifer Machura

#32 Transforming AC-powered production machines for operation in DC microgrids
Dietmar Hölderle, Janosch Hecker, Alexander Sauer

15:20 - 15:50	Break

15:50 - 16:30

Session 4.1 @

#33 Methodical Implementation Of Digital Data Consistency In Assembly Lines Of A Learning Factory
Marius Knott, Tobias Schmelter, Tom Nowak, Christopher Prinz, Bernd Kuhlenkötter

#34 Method for Semi-Automated Improvement of Smart Factories Using Synthetic Data and Cause-Effect-Relationships
Vera Hummel, Jan Schuhmacher

Thursday 16 Nov. 2023

KEYNOTE

09:30 - 10:00

Providing a Roadmap for Small and Medium Sizes Industries Towards Sustainable Manufacturing Processes
Sekhar Rakurty, PhD

10:00 - 10:40

Session 5.1 @

#35 Framework For The Successful Set-up Of A Common Data Model In The Context Of An Industry 4.0-ready Plant Design Process
Tobias Drees, Alexander Große-Kreul, Daniel Syniawa, Lars Niklas Josler, Alfred Hypki, Bernd Kuhlenkötter

#36 A Methodological Framework for Analysis and Theorization of Circular Supply Chain at the System Context Level
Shiva Abdoli, Thomas Stringer Cochingyan, Bahador Bahramimianrood, Sijia Xie, Moahmmed Malaibari

10:40 - 11:00	Break

11:00 - 12:40

Session 6.1 @Room 1 Chair: Jessica Schmied
#Manufacturing, #Technology

#37 Polygon Interface Analysis: A Concept For Analyzing Production Site Interactions In Urban Areas
Severin J. Görgens, Kolja H. Meyer, Anne Wetzel, Mark Mennenga

#38 Manufacturing Change Management – A Survey On Current Challenges, The State Of Digitalization And The Application Of Change Impact Analysis In Industrial Practice
Jan-Philipp Rammo, Jennifer Graf

#39 Comparing Research Trends and Industrial Adoption of Manufacturing Operations Management Solutions
Michael Oberle, Daniel Schel, Monika Risling, Thomas Bauernhansl

#40 Accuracy Assessment of Tactile On-Machine Inspection for Milling Operations
Jonas Krebs, Gregor Müller, Lars Rödel, Jan Prochnau, Josip Florian Strutz, Thomas Bauernhansl

#41 Transfer Learning Approaches In The Domain Of Radial-Axial Ring Rolling For Machine Learning Applications
Johannes Seitz, Tobias Moser, Simon Fahle, Christopher Prinz, Bernd Kuhlenkötter

Session 6.2 @Room 2 Chair: Dino Hardjosuwito
#Factory planning, #Operations, #Process Models

#42 Towards A Holistic Cost Estimate Of Factory Planning Projects
Leonard Rieke, Luca Philipp, Peter Nyhuis

#43 Assessing Risk Mitigation Preference Effect on Supplier Commitment and Procurement Performance in the Public Health Industry in South-Africa
Osayuwamen Omoruyi, Matthew Quayson

#44 Method For Creating A Control Cabinet Model With Realistic Wires
Stefanie Bartelt, Matthias Bartelt, Bernd Kuhlenkötter

#45 Action Management – Status, Requirements And Implementation Strategies for SMEs
Jens Kiefer, Tara Rauch, Valesca Zeller

#46 Enhanced Planning Of Production Plants: A Case-Based Reasoning Driven Approach
Daniel Syniawa, Robert Egel, Jan Schachtsiek, Alfred Hypki, Bernd Kuhlenkötter

Session 6.3 @Online Chair: Yvonne Eboumbou Ebongue
#Digitalization, #Machine learning

#47 An Investigation Of Cost-Benefit Dimensions Of 5G Networks For Agricultural Applications
Tim Benedikt Walter, Kerstin Lörsch, Max-Ferdinand Stroh, Wolfgang Boos

#48 Organizational, Sociological and Procedural Uncertainties in Statistical and Machine Learning: A Systematic Literature Review
Nick Große, Maximiliane Wilkesmann, Andrea Bommert

#49 Self-Optimization In Gear Manufacturing And Assembly For Automotive Electric Drive Production
Bastian Friedrich, Daniel Buschmann, Robert H. Schmitt

#50 Concept of a Data-Driven Business Model for Circular Production Equipment
Michael Riesener, Maximilian Kuhn, Aileen Blondrath, Balaj Tariq, Günther Schuh

#51 Reducing Wastage In Manufacturing Through Digitalization: An Adaptive Solution Approach For Process Efficiency
Valesko Dausch, Sebastian Beckschulte, Louis Huebser, Tobias Schulze, Robert H. Schmitt, Matthias Kreimeyer

12:40 - 13:40   Break

13:40 - 15:20

Session 7.1 @Room 1 Chair: Johannes Seitz
#Fuel Cells, #Battery, #Cell Production

#52 Comparison of sealing processes for Polymer Electrolyte Membrane
Gregor Müller, Rebecca Pahmeyer, Aleksandar Radlovic

#53 Fixed Route Refueling-Strategy for Fuel Cell Trucks
Achim Kampker, Heiner Heimes, Fabian Schmitt, Maximilian Bayerlein, Philipp Scheffs

#54 Design and analysis of mechanical gripper technologies for handling mesh electrodes in electrolysis cell production
Martin Römer, Benjamin Winter, Edgaras Mazeika, Klaus Dröder

#55 Deficits of Innovation Management in the Application to the Disruptive Battery Industry
Achim Kampker, Heiner Heimes, Schmied Jessica, Paul Lingohr, Henning Clever, Benjamin Dorn

#56 Mini-Environments In Lithium-Ion Battery Cell Production: A Survey On Current State, Challenges And Trends
Lorenz Plocher, Marius Heller, Benedict Ingendoh, Hasibe Turhan, Matthias Burgard, Sarah Wennemar, Achim Kampker, Marc Kissling

Session 7.2 @Room 2 Chair: Leonard Rieke
#Digitalization, #Strategies, #Manufacturing

#57 Interoperable Architecture For Logical Reconfigurations Of Modular Production Systems
Sebastian Behrendt, Marco Wurster, Matthias Strljic, Jan-Felix Klein, Marvin Carl May, Gisela Lanza

#58 Modelling The Digital Twin For Data-Driven Product Development - A Literature Review
Henry Himmelstoss, Thomas Bauernhansl

#59 Evaluating Retail Distribution Strategies During Covid-19 Pandemic in South Africa Using Best Worst Method Multicriteria Decision Technique
Osayuwamen Omoruyi, Edward Dakora, Albert Antwi, Matthew Quayson, Alfred Mwanza, Emmanuel Mabugu, Leonard Ndlovu

#60 The Process Mining Use Case Canvas: A Framework for Developing and Specifying Use Cases
Dino Hardjosuwito, Fynn Leon Braucks, Tobias Schröer, Christopher Schwanen, Wil M.P. van der Aalst

#61 Modelling The Influence Of Production Planning And Production Scheduling On Business Performance In The Manufacturing Industry Of South Africa
Elizabeth Chinomona

Session 7.3 @Online Chair: Aileen Blondrath
#Fuel Cells, #Energy, #Quality

#62 Assessment of a Novel Process to Enable Roll-to-roll Production of Catalyst Coated Membranes
Achim Kampker, Heiner Heimes, Mario Kehrer, Sebastian Hagedorn, Niels Hinrichs, Philip Heyer

#63 Contamination control for sensitive products in the era of electrified vehicles
Patrick Brag, Bálint Balogh, Péter Gordon

#64 FlexEnergy – A Prosumer-based Approach For The Automated Marketing Of Manufacturing Companies' Energy Flexibility
Philipp Pelger, Can Kaymakci, Lukas Baur, Alexander Sauer

#65 Development of scalable production concepts for the cost-efficient assembly of PEM fuel cell systems for mobile applications
Achim Kampker, Heiner Heimes, Mario Kehrer, Sebastian Hagedorn, Julius Hausmann, Johann von Harling

#66 Ecological evaluation of h2 energy supply in industry
Yvonne Eboumbou Ebongue

15:20 - 15:50	Break

15:50 - 16:30

Session 8.1 @

#67 Simulation Game Concept For AI-Enhanced Teaching Of Advanced Value Stream Analysis and Design
Mick Geisthardt, Lutz Engel, Monika Schnegelberger

#68 On the Effectiveness of Bottleneck Information for Solving Job Shop Scheduling Problems using Deep Reinforcement Learning
Constantin Waubert de Puiseau, Lennart Zey, Merve Demir, Hasan Tercan, Tobias Meisen

16:30 - 19:00	Break
19:00 - 23:30	**Gala Dinner** *@ The Hussar Grill Stellenbosch*

Friday 17 Nov. 2023

KEYNOTE	*09:30 - 10:00*	**Research – Industry Collaboration: Joining Forces for the Acceleration of E-Mobility Production** *M.Sc. Simon Voss*

10:00 - 10:40

Session 9.1 @

#69 Innovation Management in Manufacturing - A Study on Industrial Application, Deficits, and Opportunities
Quirin Gärtner, Xuezhou Zhang, Fabian Sippl

#70 Bridging The Gap: A Framework For Structuring The Asset Administration Shell In Digital Twin Implementation For Industry 4.0
Monika Risling, Henry Himmelstoss, Alexander Brandstetter, Dachuan Shi, Thomas Bauernhansl

10:40 - 11:00	Break

11:00 - 12:40

Session 10.1 @Room 1 Chair: Shiva Abdoli
#Manufacturing, #Technology

#71 A Framework For The Domain-Driven Utilization Of Manufacturing Sensor Data In Process Mining: An Action Design Approach
Jonathan Brock, Niclas Rempe, Sebastian von Enzberg, Arno Kühn, Roman Dumitrescu

#72 Adaptive Multi-Priority Rule Approach To Control Agile Disassembly Systems In Remanufacturing
Marco Wurster, Finn Bail, Sebastian Behrendt, Gisela Lanza

#73 Towards A Modular IT-Landscape For Manufacturing Companies: Framework For Holistic Software Modularization
Sebastian Junglas, Martin Perau, Dino Hardjosuwito, Tobias Schröer, Wolfgang Boos, Günther Schuh

#74 Development Of An Adaptive Augmented Reality Qualification System For Manual Assembly And Maintenance
Maximilian König

#75 Scenarios Of Glass Disposal In Australia From Circular Economy And Life Cycle Assessment Perspective
Brian Smith, Shiva Abdoli

Session 10.2 @Online Chair: Patrick Brandtner
#Lean, #Factory Planning, #Production planning

#76 Design Guidelines For Digital Kanban Systems With High Service Level
Roman Ungern-Sternberg, Christoph Kilian Merz

#77 A Concept For The Development Of A Maturity Model For The Holistic Assessment Of Lean, Digital, and Sustainable Production Systems
Olivia Bernhard, Michael F. Zaeh

#78 Backlog control in optoelectronic production using a digital twin
Jonas Schneider, Tobias Hiller, Peter Nyhuis

#79 Reducing Customer Complaints in Air Conditioning Installation Services through Lean and MRP Tools: A Case Study
Silvana Aguilar-Cevallos, Yersson Aguilar-Cevallos, Juan Carlos Quiroz-Flores, Yvan Jesus García-López

#80 From Complexity To Clarity In Sustainable Factory Planning: A Conceptual Approach For Data-driven Integration Of Green Factory KPIs In Manufacturing Site Selection
Michael Riesener, Tobias Adlon, Esben Schukat, Jan Salzwedel, Carsten Engeln, Felix Passlick

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12:40 - 13:40   Break

13:40 - 15:20

Session 11.1 @Room 1 Chair: Marco Wurster
#Sustainability, #Circular Economy

#81 Concept And Exemplary Application Of Industrialized Re-Assembly To An Automotive Use Case In The Context Of Circular Economy
Michael Riesener, Maximilian Kuhn, Nikolai Kelbel, Günther Schuh

#82 Comparative Life Cycle Assessment Of Conventionally Manufactured And Additive Remanufactured Electric Bicycle Motors
Julian Grosse Erdmann, Alexander Mahr, Patrick Derr, Philipp Walczak, Jan Koller

#83 Developing A Key Performance Indicator System To Integrate Sustainable Corporate Objectives Into Maintenance Using The Analytic Hierarchy Process
Christina Bredebach

Session 11.2 @Online Chair: Roman Ungern-Sternberg
#Supply Chain, #Logistics

#84 Enhancing Decision-Making In SCM - Investigating The Status Quo And Obstacles Of Advanced Analytics In Austrian Companies
Patrick Brandtner

#85 Sustainable Urban Logistics Model Applied to Food Trucks. Case Study and Descriptive Analysis
Andrea Fernanda Peirano Madrid, Arianna Zuñiga Novaro, Yvan Jesus García-López, José Antonio Taquía Gutiérrez

#86 Resilience Maturity Assessment in Manufacturing Supply Chains
Maria Thomassen, Bjørnar Henriksen

#87 Demand Forecast Model and Route Optimization to Improve the Supply of an SME in the Bakery Sector
Emory Pablo Bazan Flores, Candice Maria Fe Gamarra, Jose Antonio Taquía Gutiérrez, Yván Jesús García López