Detailed Programme TESCONF 2021

Day 1 - Tuesday, 16 November 2021

9:30 – 10:00   Room open and/or network through platform 'Wonder'

10:00 – 11:00   Opening Session

10:00 – 10:25   Welcome – *Professor Leo van Dongen, Dr. Alberto Martinetti, Marleen Kuipers*

10:25 – 11:00   **Keynote 1:** *Professor Arnab Majumdar, Imperial College London*

11:00 – 11:15   Break – network through platform 'Wonder'

11:15 – 12:30   Session 1: Maintenance -1 – Chair: Dr. Jan Braaksma

11:15 – 11:35   **Reducing the cost of production through usage based preventive maintenance, (Case study in Kenya tea development agency factory KTDA Chebut)**
Benard Kipsang, Evans Kiprotich

11:35 – 11:55   **Lessons learned from system integration: A strategic synopsis**
Yawar Abbas, Alberto Martinetti, Mohammad Rajabalinejad, Lex Frunt and Leo A.M. van Dongen

11:55 – 12:15   **Rapid risk assessment for the deferred maintenance**
Gabriele Baldissone, Micaela Demichela

12:15 – 12:30   Discussion

11:15 – 12:30   Session 2: System Integration – Chair: Dr. Mohammad Rajabalinejad

11:15 – 11:35   **Industry 5.0 Transition for an Advanced Service Provision**
Maryam Farsi and John Ahmet Erkoyuncu

11:35 – 11:55   **System Integration in Railway Transport: Challenges towards Proactive Integration**
Merishna Ramtahalsing, Willem Haanstra, Jan Braaksma, Mohammad Rajabalinejad and Leo van Dongen

11:55 – 12:15   **Coordinating project complexities in inter-organizational railway projects – an operationalization of the complexity-response framework (Part I)**
Nina Jakubeit, Jan Braaksma, Mohammad Rajabalinejad and Leo van Dongen

12:15 – 12:30   Discussion

12:30 – 13:00   Lunch break – network through platform 'Wonder'

13:00 – 14:15   **Workshop 1: System Integration**
Bianca Coolen, Heijmans, Dr. Jan Braaksma, University of Twente,

14:15 – 14:30   Break – network through platform 'Wonder'

14:30 – 15:45   **Session 3: Robotisation – Chair: Dr. ir Peter Chemweno**

14:30 – 14:50   **Physical Interacting Aerial Robots for 'In-situ' Inspection and Maintenance of Wind Turbine Blade**
Hanieh Esmaeeli, Ayham Alharbat and Abeje Y. Mersha

14:50 – 15:10   **Investigating Precision and Accuracy of a Robotic Inspection and Repair System**
Miftahur Rahman, Haochen Liu, Masoumeh Rahimi, Cristobal Ruiz Carcel, Leigh Kirkwood, Isidro Durazo-Cardenas and Andrew Starr

15:10 – 15:30   **Localisation and Navigation Framework for autonomous Railway Robotic Inspection and Repair System**
Masoumeh Rahimi, Haochen Liu, Miftahur Rahman, Cristobal Ruiz Carcel, Isidro Durazo Cardenas, Andrew Starr, Amanda Hall and Robert Anderson

15:30 – 15:45   Discussion

14:30 – 15:45   **Session 4: Digitalisation - 1 - Chair: ir. Roberto Reyes Garcia, PDEng**

14:30 – 14:50   **Design and implementation of a self-cleaning heat exchanger using digital twin**
Sam Brooks, Ayman Yasin, Kazeem Alatishe and Rajkumar Roy,

14:50 – 15:10   **Is a top-level ontology-based digital twin the solution to human-machine interoperability?**
Davide D'Amico, Sri Addepalli and John Ahmet Erkoyuncu

15:10 – 15:30   **Application of the Fuzzy Model in the Evaluation and Selection of Hydraulic Excavators on Open-pit Lignite Mine**
Stevan Djenadic, Milos Tanasijevic, Vladimir Milisavljevic, Dragan Ignjatovic and Predrag Jovancic

15:30 – 15:45   Discussion

Close of Day 1

Day 2 - Wednesday, 17 November 2021

9:30 – 10:00   Room open or network through platform 'Wonder'

10:00 – 10:45   Opening Session

10:00 – 10:10   Welcome day 2

10:10 – 10:45   **Keynote 2:** *Hans Sintemaartensdijk, Programme Manager Asset Management and Innovation, Tata Steel*

10:45 – 11:00   Break – network through platform 'Wonder'

11:00 – 12:15   Workshop 2: Sustainability
                 Professor Sebastian Thiede, , Dr. ir. Willem Haanstra University of Twente

12:15 – 12:45   Lunch break – network through platform 'Wonder'

12:45 – 14:00   Session 5: Sustainability - Chair: ir. Yawar Abbas

12:45 – 13:05   **Application of Life Cycle Assessment in Asset Management: A multiple case study**
                 Henrike Holwerda, Willem Haanstra, Jan Braaksma, Tom Coenen and Joao Oliveira dos Santos

13:05 – 13:25   **Climate change in Dutch railway infrastructure: a framework towards adaptation strategies**
                 Merishna Ramtahalsing, Laura Kuiper-Hutten, Willem Haanstra, Jan Braaksma, Mohammad Rajabalinejad and Leo van Dongen

13:25 – 13:45   **Performance and safety evaluation of lithium-ion batteries for electric vehicles**
                 Oscar Eduardo Rojas Vargas and Muhammad Khan

13:45 – 14:00   Discussion

12:45 – 14:00   Session 6: Digitalisation -2 - Chair: Dr. Marcus Perreira Pessoa

12:45 – 13:05   **Machine Learning Approaches to Identify Environmental Damage on Superalloys**

                 Oluwatobi Oluwafemi, Pavan Ganti, Vijaya Babu, Shiyi Wang, Lichao Yang, Simon Gray, Yifan Zhao and Gustavo Castelluccio

13:05 – 13:25   **A review of Artificial Intelligence applications in Thermographic Non-destructive Testing**
Kailun Deng, Lichao Yang, Haochen Liu, Wenhan Li, John Ahmet Erkoyuncu and Yifan Zhao

13:25 – 13:45   **Troubleshooting: a dynamic solution for achieving reliable fault detection by combining augmented reality and machine learning**
Sara Scheffer, Nick Limmen, Roy Damgrave, Alberto Martinetti, Bojana Rosic and Leo van Dongen

13:45 – 14:00   Discussion

14:00 – 14:15   Break – network through platform 'Wonder'

14:15– 15:30   Session 7: Maintenance - 2- Chair: ir. Sara Scheffer

14:15 – 14:35   **Industry 5.0 Indicators for Sustainable Reliability Centered Maintenance**
Maryam Farsi and John Ahmet Erkoyuncu

14:35 – 14:55   **Design for Maintenance in Electric Aircrafts**
Ashrith Jain, Alberto Martinetti and Leo van Dongen

14:55 – 15:15   **Simulation model for cost and availability estimation at the bidding stage in the presence of limited data**
Duarte Polonia Rodrigues, John Ahmet Erkoyuncu, Andrew Starr and Steve Wilding

15:15 – 15:30   Discussion

14:15– 15:30   Session 8: Damage Analysis - Chair: Dr.ir. Richard Loendersloot

14:15 – 14:35   **Procedure for technological diagnosis of oily residuals management in Cubans distributed generation power plants**
David Javier Castro Rodriguez, Omar Gutiérrez Benítez, Jelvys Bermúdez Acosta, José Reinol Poma Rodríguez and Micaela Demichela

14:35– 14:55   **An Overview of the Evolution of Degradation Mechanisms in Leaks in Metal Pipes and Joints and the Effectiveness of the LLM and LMD Methods**
Alaa Agala, Muhammed Khan and Andrew Starr

14:55 – 15:15   **Steam Oxidation Responses of Candidate Materials for a Novel Steam Transfer Pipe**
Stefano Mori, Joy Sumner, Andy Pidcock, John Nicholls and Nigel Simms

15:15 – 15:30   Discussion

Close of Day 2

Day 3 - Thursday, 18 November 2021

9:30 – 10:00   Room open and/or network through platform 'Wonder'

10:00 – 10:45   Opening Session

10:00 – 10:10   Welcome day 3

10:10 – 10:45   **Keynote 3:** *Professor Micaela Demichela, politecnico di Torino*

10:45 – 11:00   Break – network through platform 'Wonder'

11:00 – 12:15   Session 9: Service - Chair: Dr. Florian Schuberth

11:00 – 11:20   **A comparative study of various strategies in dealing with Covid-19 for SMEs**
Twan Hilhorst, Mohammad Rajabalinejad

11:20 – 11:40   **Coordinating Project Complexities in Inter-Organizational Railway Projects – a Multiple Case Study Highlighting the Importance of Relational Coordination (Part II)**
Nina Jakubeit, Jan Braaksma, Mohammad Rajabalinejad and Leo van Dongen

11:40 – 12:00   **Self-engineering: possibilities for maintenance operations in the mining machines industry**
Steven Manders, Milorad Pantelic, Vladimir Milisavljevic, Alberto Martinetti

12:00 – 12:15   Discussion

12:15 – 12:45   Lunch break – network through platform 'Wonder'

12:45 – 14:00   Workshop 3: Digital Twinning and AI technologies

Professor Bojana Rosic, Marielle Stoelinga, University of Twente

14:00 – 14:15   Break – network through platform 'Wonder'

14:15 – 14:45   Closing of the Conference – Best Paper Award – TESConf2022