Welcome to

ANT 2019
The 10th International Conference
on Ambient Systems,
Networks and Technologies

EDI40 2019
The 2nd International Conference
on Emerging Data and
Industry 4.0

April 29 - May 2, 2019
Leuven, Belgium

With support of

Hasselt University (Belgium) & Acadia University (Canada)

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ANT / EDI40 2019
SYMPOSIA AND WORKSHOPS AND TUTORIALS

ANT	The 10th International Conference on Ambient Systems, Networks and Technologies
EDI40	The 2nd International Conference on Emerging Data and Industry 4.0
ABMTRANS	The 8th International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications
ANTIFRAGILE	The 6th International Workshop "From Dependable to Resilient, from Resilient to Antifragile Ambients and Systems"
BMB	International workshop on Biomathematics Models and Biosensing
FAMS	The 9th International Symposium on Frontiers in Ambient and Mobile Systems
IAIoT	International Workshop on Industrial Applications of IoT
IUPT	The 9th International Symposium on Internet of Ubiquitous and Pervasive Things
MECST	International Workshop on Microwave Engineering, Communications Systems and Technologies
MLBDACP	International Symposium on Machine Learning and Big Data Analytics for Cybersecurity and Privacy
MLDM-SN	The 6th International Workshop on Machine Learning and Data Mining for Sensor Networks
P2PANS	International Workshop on Peer-to-Peer Architectures, Networks, and Systems
RACT-5G-IoT	The 2nd International Workshop on Recent Advances in Cellular Technologies and 5G for IoT Environments
WSDM	International Workshop on Web Search and Data Mining
MATSim	Multi-Agent Transport Simulation Tutorial
EuSarlCon	European Forum of the SARL Users and Developers Tutorial

PROGRAM AT A GLANCE

ANT 2019, EDI40 2019 and Workshops
Program Time Slots

Timing		Monday 29 April 2019				
		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5
		Erasmus 1	Erasmus 2	Erasmus 3	Mercator 1	Mercator 2
09:00-10:30		MATSim User Meeting 2019				
10:30-11:00	Coffee Break	Foyer Erasmus				
11:00-12:30		MATSim User Meeting 2019				
12:30-13:25	LUNCH	Lunch Room				
13:30-15:00		MATSim User Meeting 2019				
16:00-18:00	Registration	Foyer Erasmus				

Timing		Tuesday 30 April 2019				
08:30-12:00	Registration	Foyer Erasmus				
09:15-09:30	Opening Ceremony	Erasmus 1				
09:30-10:30	Keynote Speaker I	**Prof. Dr. Danny Hughes**				
10:30-10:55	Coffee Break	Foyer Erasmus				
11:00-12:30	Technical Sessions (1)	ANT–S1	ANT–S2	ANT–S3	EDI40–S1	WSDM–S1
12:30-13:25	LUNCH	Lunch Room				
13:30-15:00	Technical Sessions (2)	ANT–S4	ANT–S5	ANT–S6	EDI40–S2	WSDM–S2
15:00-15:25	Coffee Break	Foyer Erasmus				
15:30-17:00	Technical Sessions (3)	ANT–S7	ANT–S8	ABMTRANS–S1	IAIoT	WSDM–S3
17:00-18:30				ABMTRANS–S2	MLBDACP	SSTnk

Timing		Wednesday 1 May 2019				
		Erasmus 1				
09:30-10:30	Keynote Speaker II	**Prof. Dr. Kai Nagel**				
10:30-10:55	Coffee Break	Foyer Erasmus				
11:00-12:30	Technical Sessions (4)	ANT–S9	ANT–S10	ANT–S11	EDI40–S3	ABI
12:30-13:25	LUNCH	Lunch Room				
13:30-15:00	Technical Sessions (5)	ANT–S12	ANT–S13	ANT–S14	EDI40–S4	MATSim
15:00-15:25	Coffee Break	Foyer Erasmus				
15:30-17:00	Technical Sessions (6)	ANT–S15	ANT–S16	ABMTRANS–S3	MECST–S1	FAMS
17:00-18:30				ABMTRANS–S4	MECST–S2	PMR
19:00-21:00	Banquet and Award Ceremony	Erasmus 1 + 2				

Timing		Thursday 2 May 2019				
08:30-10:00	Technical Sessions (7)	ANT–S17	ANT–S18	ABMTRANS–S5	EuSarlCon	SSTnk
10:00-10:25	Coffee Break	Foyer Erasmus				
10:30-12:00	Technical Sessions (8)			ABMTRANS–S6		SSTnk
		End of Event				

KEYNOTE I

Retrofitting industrial assets with the IoT: opportunities and challenges

Prof. Dr. Danny Hughes

KU Leuven, Belgium

Abstract:

This talk will describe VersaSense's experiences of applying industrial IoT technologies to gather real-time telemetry from a wide range of industrial assets in order to improve product quality, eliminate downtime and reduce waste. This talk will first review key building blocks of this solution, including: plug-and-play sensors, reliable wireless networks and nuts-and-bolts data analytics. The talk will then discuss how core IoT technologies can be combined to solve real business solutions. This presentation will be illustrated throughout with examples of real-world industrial IoT systems that are generating value today for customers in domains as diverse as: ore processing, automotive manufacture and fast moving consumer goods.

About the Speaker:

Prof. Hughes is the Chief Technical Officer of VersaSense NV, a KU Leuven spin-off company that provides end-to-end industrial Internet of Things solutions. He is also a Professor with the Department of Computer Science of KU Leuven (Belgium), where he is a member of the DistriNet (Distributed Systems and Computer Networks) research group and leads the Networked Embedded Software task-force. Danny has a PhD from Lancaster University (UK) and has previously worked at the University of California at Berkeley (USA), the University of Sao Paulo (Brazil) and Xi'an Jiaotong-Liverpool University (China).

KEYNOTE II

Simulation-Based Analysis of Autonomous Vehicle Fleets for Urban Transport

Prof. Dr. Kai Nagel

Berlin Institute of Technology, Germany

Abstract:

It is possible to perform microscopic simulations of mobility-as-a-service, where vehicles drive to passengers, pick them up, drive them to their destination, drop them off, etc. Variations of this general theme include operation with vs. without drivers, pooling, electrification, etc. The simulations show quite clear signals of what will happen with the introduction of such services, such as changes in vehicle km, changes in congestion, changes in emissions, etc. Starting from these results, the presentation will discuss potential future regimes including possible regulatory approaches.

About the Speaker:

After studying physics and meteorology in Cologne and Paris, Kai Nagel got his Ph.D. in computer science at the University of Cologne about "fast microscopic traffic simulations". From 1995 to 1999 he was at Los Alamos National Laboratory as part of the "TRANSIMS" team.

During the period of 1999 - 2004, he was an assistant professor for Computer Science at ETH Zurich at the Institute for Scientific Computing. Since 2004 he is a full professor for "Transport systems planning and transport telematics" at the Berlin Institute of Technology (TU Berlin). His research interests include: large transportation simulations, modeling and simulation of socio-economic systems, multi-agent simulations. He published numerous number of papers in international journals, conferences and workshops.

DETAILED PROGRAM

Monday, April 29, 2019

Registration	16:00-18:00

Location: Foyer Erasmus

Tuesday, April 30, 2019

Registration	08:30 – 12:00

Location: Foyer Erasmus

Opening	09:15 - 09:30

Opening Ceremony
Location: Main Meeting Room (Room 1)

Keynote I	09:30 - 10:30

Retrofitting industrial assets with the IoT: opportunities and challenges
Prof. Dr. Danny Hughes, KU Leuven, Belgium

Session Chair: Ansar Yasar, Hasselt University, Belgium
Location: Main Meeting Room (Room 1)

Coffee Break	10:30 - 10:55

Location: Foyer Erasmus

Technical Sessions	11:00 - 12:30

ANT Session (ANT-S1): Agent Systems, Intelligent Computing and Applications I
Session Chair: Christophe Kolski, Univ-Polytechnique Hauts-de-France, France
Location: Room 1

Communication-free and Index-free Distributed Formation Control Algorithm for Multi-robot Systems
    Jorge Peña Queralta, Cassandra McCord, Tuan Nguyen Gia, Hannu Tenhunen and Tomi Westerlund
Smart Mobility Using Multi-Agent System
    Assia Belbachir, Amal El Fallah-Seghrouchni, Arthur Casals and Marcia Pasin
A Multiagent Geosimulation and IoT-based Framework for Safety Monitoring in Complex Dynamic Spatial
Environments
    Hedi Haddad, Zied Bouyahia and Shafique A. Chaudhry

ANT Session (ANT-S2): Vehicular Networks and Applications
Session Chair: Elenna Dugundji, Vrije Universiteit Amsterdam, Netherlands
Location: Room 2

Predicting Traffic Phases from Car Sensor Data using Machine Learning
    Emiliano Heyns and Shammy Uniyal
V2V and V2I Communications for Traffic Safety and C02 Emission Reduction: A Performance Evaluation
    Fatma Outay, Faouzi Kamoun, Florent Kaisser, Doaa Alterri and Ansar Yasar
Performance Testing for VoIP Emergency Services: a Case Study of the EMYNOS Platform
    Budankailu Sameer Kumar Subudhi, Catal Faruk, Nikolay Tcholtchev, Kin Tsun Chiu and Yacine Rebahi
Visualization of Traffic Flows in a Simulated Network Environment to investigate abnormal Network Behavior in
complex Network Infrastructures
    Faruk Catal, Nikolay Tcholtchev, Edzard Höfig and Andreas Hoffmann

ANT Session (ANT-S3): Modeling and Simulation in Transportation Sciences I
Session Chair: Luk Knapen, Hasselt University, Belgium
Location: Room 3

Modelling and Simulation of a Physical Internet of Transportation Hubs
  Bill Karakostas
VENTOS: Vehicular Network Open Simulator with Hardware-in-the-Loop Support
  Bryan Ching, Mani Amoozadeh, Chen-Nee Chuah, Dipak Ghosal and Michael Zhang
Demand responsive - vs. conventional public transportation: A MATSim study about the rural town of Colditz, Germany
  Kathrin Viergutz and Clemens Schmidt
The influence of an autonomous driving car operation on commuters' departure times
  Chansung Kim, Young-Goun Jin, Jiyoung Park and Dongwoon Kang

EDI40 Session: EDI40-S1
Session Chair: Thuong Le Tien, HCMC University of Technology, Vietnam
Location: Room 4

Cost and Availability Improvements for Fault-Tolerant Systems Through Optimal Load-Sharing Policies
  Lukas Felsberger, Benjamin Todd and Dieter Kranzlmüller
A Conceptual Model of Smart Manufacturing Execution System for Rolling Stock Manufacturer
  Tae Hyun Kim, Jongpil Jeong and Yeasang Kim
Reliability Assessment in the Context of Industry 4.0: Data as a Game Changer
  Sanja Lazarova-Molnar and Nader Mohamed
Rule extraction required for manufacturing process design
  Jihoon Song and Jongpil Jeong

WSDM Workshop: WSDM-S1
Session Chair: Mohammed Erritali, University Sultane Moulay & Badr Hssina, Hassan 2 University, Morocco
Location: Room 5

Information Retriaval System Based Semantique and Big Data
  Mohammed Erritali, Hanane Ezzikouri,Youssef Chouni and Youness Madani
Detecting tenders based on Mobile agents
  Otman Maarouf, Youness Madani, Mohamed Erritali and Rachid Elayachi
Towards an Intelligent System to Improve Student Engagement and Retention
  Ghaith Al-Tameemi and James Xue
A new semantic similarity approach for improving the results of an Arabic search engine
  Amine El Hadi, Youness Madani, Rachid El Ayachi and Mohamed Erritali

Lunch   **12:30 - 13:25**

Location: Lunch Room

Technical Sessions   **13:30 - 15:00**

ANT Session (ANT-S4): Agent Systems, Intelligent Computing and Applications II
Session Chair: Hedi Haddad, Dhofar University, Oman
Location: Room 1

Resource-dependent contextual planning in AmI
  Arthur Casals, Amal El Fallah Seghrouchni, Anarosa Alves Brandão, Carlos Eduardo Pantoja and José Viterbo
Application of C4.5 Decision Tree for Scholarship Evaluations
  Xiao Wang, Chaoyi Zhou and Xiaolong Xu
Road traffic forecasting in Morocco using artificial neural networks
  Nadia Slimani, Ilham Slimani, Nawal Sbiti and Mustapha Amghar
Tangible tabletops and dual reality for crisis management: case study with mobile robots and dynamic tangible objects
  Walid Merrad, Lydia Habib, Alexis Heloir, Christophe Kolski and Antonio Krüger

ANT Session (ANT-S5): Big Data and Analytics I
Session Chair: Omar Alam, Trent University, Canada
Location: Room 2

GDPR principles in Data protection encourage pseudonymization through most popular and full-personalized devices - mobile phones
   Peter Štarchoň and Tomáš Pikulík
Attention-based Recurrent Neural Network for Urban Vehicle Trajectory Prediction
   Seongjin Choi, Jiwon Kim and Hwasoo Yeo
Identifying a Team of Experts in Social Networks using a Cultural Algorithm
   Kalyani Selvarajah, Pooya Moradian Zadeh, Mehdi Kargar and Ziad Kobti

ANT Session (ANT-S6): Modeling and Simulation in Transportation Sciences II
Session Chair: Ahsan Habib, Dalhousie University, Canada
Location: Room 3

A case study of a last-mile solution in a high-density residential neighborhood
   Chansung Kim, Young-Goun Jin, Jiyoung Park and Dongwoon Kang
An Automated Gradual Zoning Approach for large-scale Transport Models
   Falko Nordenholz, Simon Metzler and Christian Winkler
A note on accounting for underlying injury-severity states in statistical modeling of injury accident data
   Grigorios Fountas and Tom Rye
Modelling Human Population Characteristics with Copulas, Should We?
   Kartik Kaushik, Cinzia Cirillo and Fabian Bastin

EDI40 Session: EDI40-S2
Session Chair: Sanja Lazarova-Molnar, University of Southern Denmark, Denmark
Location: Room 4

FPGA Platform applied for Facial Expression Recognition System using Convolutional Neural Networks
   Thuong Le, Sy Nguyen and Hanh Phan
Towards a Data Governance Framework for Third Generation Platforms
   Juan Yebenes and Marta Zorrilla
Towards Predicting System Disruption in Industry 4.0: Machine Learning-Based Approach
   Bouziane Brik, Belgacem Bettayeb, M'Hammed Sahnoun and Fabrice Duval
Deep Neural Network Method of Recognizing the Critical Situations for Transport Systems by Video Images
   Fedor F. Pashchenko, Oleg S. Amosov, Svetlana G. Amosova, Yuriy S. Ivanov and Sergey V. Zhiganov

WSDM Workshop: WSDM-S2
Session Chair: Mohammed Erritali, University Sultane Moulay & Badr Hssina, Hassan 2 University, Morocco
Location: Room 5

Load Balancing Protocol (EESAA) to improve Quality of Service in Wireless sensor network
   Ansam Ennaciri, Mohammed Erritali and Jamaa Bengourram
Clustering of Phentermine HCL Drug from Online Patient Medication Reviews
   Pinar Yildirim and Alkan Kaya
A Personalized Pedagogical Objectives Based on a Genetic Algorithm in an Adaptive Learning System
   Badr Hssina and Mohammed Erritali
Social Collaborative Filtering Approach for Recommending Courses in an E-learning Platform
   Youness Madani, Mohammed Erritali, Jamaa Bengourram and Francoise Sailhan

Coffee Break   1500 - 15:25

Location: Foyer Erasmus

ANT Session (ANT-S7): Smart Environments and Applications
Session Chair: Pieter Fourie, Singapore ETH Centre, Singapore
Location: Room 1

Semantic web technologies as enablers for truly connected mobility within smart cities
Miloš Viktorović, Dujuan Yang, Bauke de Vries and Nico Baken
Basic Daily Activity Recognition with a Data Glove
Julien Maitre, Clément Rendu, Kévin Bouchard, Bruno Bouchard and Sébastien Gaboury
Use of Smartphones for Hypoglycaemia Prediction - A Feasibility Study
Wilson L G Costa, Ella Pereira and Georgios Kontonatsios
Application and Visualization of Typical Clustering Algorithms in Seismic Data Analysis
Zexuan Fan and Xiaolong Xu
Uasisi: a modular and adaptable wearable system to assist the visually impaired
Jose Antonio Garcia Macias and Alberto Gabriel Ramos

ANT Session (ANT-S8): Systems Security and Privacy
Session Chair: Hwasoo Yeo, NYUAD, KAIST, UAE, Korea
Location: Room 2

Holistic Strategy-Based Threat Model for Organizations
Michael Meinig, Muhammad I.H. Sukmana, Kennedy A. Torkura and Christoph Meinel
Authenticated and Privacy-Preserving Consent Management in the Internet of Things
Maryline Laurent, Jean Leneutre, Sophie Chabridon and Imane Laaouane
Cloud technologies - solution for secure communication and collaboration
Juraj Zelenay, Peter Balco and Michal Greguš
PrivUML: A Privacy Metamodel
Jihane El Mokhtari, Anas Abou El Kalam, Siham Benhadou and Hicham Medromi

ABMTRANS Workshop: ABMTRANS-S1
Session Chairs: Luk Knapen & Ansar Yasar, Hasselt University, Belgium
Location: Room 3

GPU-based parallel computing for activity-based travel demand models
Han Zhou, Jan-Pieter Dorsman, Maaike Snelder, Erik de Romph and Michel Mandjes
Large-scale multi-agent mobility simulations on a GPU: towards high performance and scalability
Aleksandr Saprykin, Ndaona Chokani and Reza S. Abhari
Analysis of Activity Location and Trip Mode Choice – A Study on Hierarchical Ordering
Gozde Ozonder and Eric J. Miller
A new outlook on ridehailing: spatiotemporal patterns and commuting analysis from the Greater Toronto and Hamilton Area
Francisco Calderón and Eric J. Miller

IAIoT Workshop
Session Chairs: Raj Mohan, PES University & Subha P. Eswaran, BEL, India
Location: Room 4

Automation algorithm to detect and quantify Electrocardiogram waves and intervals
Hamdi Mohamed, Rajani Akula
A novel low-cost helmet design and implementation for drowsiness and fall detection of workers on-site using EEG and Random-Forest Classifier
Sameer Dhole, Amith Kashyap, Animesh Dangwal, Rajasekar Mohan
IoT Green Corridor
Ramapriya R ,Pallavi M P, Anusha Kamath, Goutham A P, Rajasekar Mohan
Machine Learning Quorum Decider (MLQD) for Large Scale IoT Deployments
Ariharan V, Subha P Eswaran, Srinivasarao Vempati, Naveed Anjum
Event driven Multimodal Augmented Reality based Command and Control Systems for Mining Industry
Andhan Rahul buddhan, Subha P Eswaran, D. M Ezhil Buddhan, Sridhar Sripurushottama

WSDM Workshop: WSDM-S3
Session Chair: Mohammed Erritali, University Sultane Moulay & Badr Hssina, Hassan 2 University, Morocco
Location: Room 5

Black Hole attack Detection using Fuzzy based Intrusion Detection Systems in MANET
    Houda Moudni, Mohamed Er-Rouidi, Hicham Mouncif and Benachir El Hadadi
Relative Performance Analysis of Reactive and Proactive Routing Protocols in Mobile Wireless Ad hoc Networks
    Mohamed Er-Rouidi, Houda Moudni, Hicham Mouncif and Abdelkrim Merbouha
E-commerce Personalization with Elasticsearch
    Konstantinos N. Vavliakis, George Katsikopoulos and Andreas L. Symeonidis
Detecting of topic-specific leaders in social networks
    Lea Vega Romero and Andrés Mendez Vazquez
A New Approach for Calculating Semantic Similarity between Words Using WordNet and Set Theory
    Hanane Ezzikouri, Mohammed Erritali, Mohamed Oukessou and Youness Madani

Technical Sessions   17:00 - 18:30

ABMTRANS Workshop: ABMTRANS-S2
Session Chairs: Luk Knapen & Ansar Yasar, Hasselt University, Belgium
Location: Room 3

An Agent-based Simulation Model for Truck Platoon Matching
    Berry Gerrits
The MATSim Open Berlin Scenario: A multimodal agent-based transport simulation scenario based on synthetic demand modeling and Open Data
    Dominik Ziemke, Ihab Kaddoura and Kai Nagel
Value chains of Road Freight Transport operations: A agent-based modeling proposal
    Aitor Salas, Blanca Cases and Juan Carlos García Palomares
Determining an Optimal Fleet Size for a Reliable Shared Automated Vehicle Ride-Sharing Service
    Golan Ben-Dor, Eran Ben-Elia and Itzhak Benenson
Agent-Based Dynamic Traffic Assignment with Information Mixing
    Joshua Auld, Omer Verbas and Monique Stinson

MLBDACP Workshop
Session Chair: Yassine Maleh, National Port Agency, Casablanca, Morocco
Location: Room 4

Secure MultiPath Mutation SMPM in Moving Target Defense Based on SDN
    Karim Zkik, Anass Sebbar, Youssef Baddi and Mohammed Boulmalf
A new service broker algorithm optimizing the cost and response time for cloud computing
    Zakaria Benlalia, Abderrahim Beni Hssane, Abouelmehdi Karim and Abdellah Ezzati
Security Qualitative Metrics for Open Web Application Security Project Compliance
    Ferda Özdemir Sönmez
Digging Deeper into Data Breaches: An Exploratory Data Analysis of Hacking Breaches Over Time
    Hicham Hammouchi, Othmane Cherqi, Ghita Mezzour, Mounir Ghogho and Mohammed El Koutbi

SSTnK[*]
Managed by: Ansar Yasar, Hasselt University, Belgium
Location: Room 5

[*]Special Group Meeting

Keynote II   09:30 - 10:30

Simulation-Based Analysis of Autonomous Vehicle Fleets for Urban Transport
Prof. Dr. Kai Nagel, Berlin Institute of Technology, Germany

Session Chair: Haroon Malik, Marshall University, USA
Location: Main Meeting Room (Room 1)

Coffee Break   10:30 - 10:55

Location: Foyer Erasmus

Technical Sessions   11:00 - 12:30

ANT Session (ANT-S9): Emerging Networking, Tracking and Sensing Technologies I
Session Chair: Christian Winkler, German Aerospace Center, Germany
Location: Room 1

Intelligent beacon location and fingerprinting
   Pedro Martins, Maryam Abbasi, Filipe Sá, Filipe Caldeira and Francisco Morgado
A Reactive System for Big Trajectory Data Management
   Soufiane Maguerra, Azedine Boulmakoul, Ahmed Lbath, Lamia Karim and Hassan Badir
Impact of digital trends using IoT on banking processes
   Fadoua Khanboubi, Azedine Boulmakoul and Karine Zeitouni
Comparative Study on Range Free Localization Algorithms
   Elhadi Shakshuki, Tarek Sheltami, Abdulrahman Abu Elkhail, Ibrahim Nemer, Mumin Adam
An improved hybrid fuzzy-Ant colony algorithm applied to load balancing in Cloud computing environment
   Awatif Ragmani, Amina El Omri, Noreddine Abghour, Khalid Moussaid and Mohammed Rid

ANT Session (ANT-S10): Internet of Things
Session Chair: Konstantinos Vavliakis, Aristotle University of Thessaloniki, Greece
Location: Room 2

Performance Analysis of RPL Protocol for Data Gathering Applications in Wireless Sensor Networks
   Abdulaziz Y. Barnawi, Gamel A Mohsena and Essa Q. Shahra
Gamification in IoT Application: A Systematic Mapping Study
   Alla Abdelhadi and Nafil Khalid
Energy-efficient and Reliable Wearable Internet-of-Things through Fog-Assisted Dynamic Goal Management
   Arman Anzanpour, Humayun Rashid, Amir M. Rahmani, Axel Jantsch, Nikil Dutt and Pasi Liljeberg
A Real-time PPG Quality Assessment Approach for Healthcare Internet-of-Things
   Emad Kasaeyan Naeini, Iman Azimi, Amir M. Rahmani, Pasi Liljeberg and Nikil Dutt

ANT Session (ANT-S11): Modeling and Simulation in Transportation Sciences III
Session Chair: Grigorios Fountas, Edinburgh Napier University, UK
Location: Room 3

Exploring the Spatial Transferability of FEATHERS – An Activity Based Travel Demand Model – For Ho Chi Minh City, Vietnam
   Thuy Linh Hoang, Muhammad Adnan, Wim Ectors, Bruno Kochan, Tom Bellemans and Vu Anh Tuan
Agent-based Mesoscopic Urban Traffic Simulation based on Multi-lane Cell Transmission Model
   Yeeun Kim, Seongjin Choi, Jihyuk Park and Hwasoo Yeo
Availability-based dynamic pricing on a round-trip carsharing service: an explorative analysis using agent-based simulation
   Giulio Giorgione, Francesco Ciari and Francesco Viti
The first agent-based modelling of greater Jakarta integrated with choice modelling in the framework of MATSim simulation
   Anugrah Ilahi, Milos Balac, Aoyong Li and Kay. W. Axhausen

EDI40 Session: EDI40-S3
Session Chair: Alfonso Gonzalez-Briones, University of Salamanca, Spain
Location: Room 4

Towards a Smart Distribution of Energy in Micro Smart Grid
  Mohamed Rafik, Ayoub Bahnasse, Azeddine Khiat, Omar Bouattane, Hassan Ouajji and Mohamed El Khaili
Knowledge-based predictive maintenance for fleet management
  Patrick Killeen, Bo Ding, Tet Yeap and Iluju Kiringa
Towards Distributed IoT/Cloud based Fault Detection and Maintenance in Industrial Automation
  Apostolos Xenakis, Anthony Karageorgos and Efthimios Lallas
Redesigning Curriculum in line with Industry 4.0
  Rizwan Matloob, Adeel Shah and Moin Ali Khan Ali Khan

AntiFragile/BMB/IUPT Workshops
Session Chair: Leszek Rolka, Rzeszow University of Technology, Poland
Location: Room 5

No More Snake Oil: Architecting Agility through Antifragility
  Barry O'Reilly
Contribution to the development of a rapid prototyping platform model for reconfigurable nano-biosensors based on nanotechnologies
  Ghazi Abdelkrim
Forensic Gender Speaker Recognition under Clean and Noisy Environments
  Ouassila Kenai, Salim Djeghiour, Nassim Asbai, Mhania Guerti
Intelligent multi-agent system for water reduction in automotive irrigation processes
  Alfonso González-Briones, Javier Prieto Tejedor, Juan M. Corchado

Lunch   12:30 - 13:25

Location: Lunch Room

Technical Sessions   13:30 - 15:00

ANT Session (ANT-S12): Emerging Networking, Tracking and Sensing Technologies II
Session Chair: Kevin Bouchard, Université du Québec à Chicoutimi, Canada
Location: Room 1

A Stable Matching Based Algorithm to Minimize the End-to-End Latency of Edge NFV
  Karanbir Singh Ghai, Salimur Choudhury and Abdulsalam Yassine
Analysis of Exploiting Geographic Routing for Data Aggregation in Wireless Sensor Networks
  Khaled Hadi
Beacons positioning detection, a novel approach
  Pedro Martins, Filipe Caldeira and José Francisco Morgado
A scalable real-time tracking and monitoring architecture for logistics and transport in RoRo terminals
  Mouna Amrou Mhand, Azedine Boulmakoul, Hassan Badir and Ahmed Lbath

ANT Session (ANT-S13): Big Data and Analytics II
Session Chair: Alberto Leon-Garcia, University of Toronto, Canada
Location: Room 2

Recognizing Emotion from Speech Based on Age and Gender Using Hierarchical Models
  Ftoon Abu Shaqra, Rehab Duwairi and Mahmoud Al-Ayyoub
PercoMCV: A hybrid approach of community detection in social networks
  Selain Kasereka and Nathanael Kasoro
Reveal the hidden layer via entity embedding in traffic prediction
  Bo Wang, Khaled Shaaban and Inhi Kim

ANT Session (ANT-S14): Modeling and Simulation in Transportation Sciences IV
Session Chair: Khaled Salah Shaaban, Qatar University, Qatar
Location: Room 3

Freeway Loop Detector Data Reconciliation Based on Vehicle Conservation
Felipe de Souza
Path complexity for observed and predicted bicyclist routes
Thomas Koch, Luk Knapen and Elenna Dugundji
Bicyclist Route Choice: Data Exploration and Research Project Outline
Luk Knapen, Thomas Koch and Elenna Dugundji
High Performance Computing applied to Dynamic Traffic Assignment
Willem Himpe, Romain Ginestou and Chris Tampere

EDI40 Session: EDI40-S4
Session Chair: Apostolos Xenakis, University of Thessaly, Greece
Location: Room 4

Design and Applications of Agile Factory AaaS Architecture Based on Container-based Virtualized Automation Control Unit
Jaehyeong Lee, Changyong Um, Jinjae Shin and Jongpil Jeong
A New Model for Integrating Big Data into Phases of Decision-Making Process
Fatma Chiheb, Fatima Boumahdi and Hafida Bouarfa
A Method Toward Privacy Protection in Context-Aware Environment
Ranya Alawadhi and Tahani Hussain

Multi-Agent Transport Simulation (MATSim) Tutorial
Managed by: Dominik Ziemke and Theresa Thunig, TU Berlin, Germany
Location: Room 5

Coffee Break   1500 - 15:25

Location: Foyer Erasmus

Technical Sessions   15:30 - 17:00

ANT Session (ANT-S15): Service Oriented Computing for Systems & Applications
Session Chair: Filipe Caldeira, Polytechnic Institute of Viseu, Portugal
Location: Room 1

An Open Vibration Platform to Evaluate Postural Control using a Simple Reinforcement Learning Agent
Virgile Lafontaine, Kevin Bouchard, Jean-Michel Gagnon, Mathieu Dallaire, Sébastien Gaboury, Rubens Da Silva and Louis-David Beaulieu
Semantic Web Annotation using Deep Learning with Arabic Morphology
Saeed Albukhitan, Ahmed Alnazer and Tarek Helmy
Dependency Network-based Trust Management for Context-aware Web Services
Afaf Mousa, Jamal Bentahar and Omar Alam
Towards An Ontology Based-Approach for Human Resource Management
Wiem Zaouga and Latifa Ben Arfa Rabai

ANT Session (ANT-S16): Distributed Systems, Networks and Applications
Session Chair: Navuday Sharma, Tallin University of Technology, Estonia
Location: Room 2

Using Pavements to Generate Electricity
Khaled Shaaban, Karim Abdelwarith and John Haddock
A comprehensive literature review on community detection: Approaches and applications
Mohamed El-Moussaoui, Tarik Agouti and Abdessadek Tikniouine
An Auction Mechanism for Profit Maximization of Peer-to-Peer Energy Trading in Smart Grids
Jemasharin Pankiraj, Abdulsalam Yassine and Salimur Choudhury
The Impact of Video Games on the Players Behaviors: A Survey
Muhannad Quwaider, Abdullah Alabed and Rehab Duwairi

Creating an integrated agent-based travel demand model by combining mobiTopp and MATSim
  Lars Briem, Nicolai Mallig and Peter Vortisch
Effects of scaling down the population for agent-based traffic simulations
  Carlos Llorca and Rolf Moeckel
Long-distance and daily travel demand: integration of various travel markets and modelling approaches
  Carlos Llorca, Christian Winkler, Tudor Mocanu and Rolf Moeckel
How driving multiple tours affects the results of last mile delivery vehicle routing problems
  Kai Martins-Turner and Kai Nagel

Design and Simulation of RFID Array Antenna 2x1 for Detection System of Objects or Living Things in Motion
  A.EL ALAM, Y.GHAZAOUI, S.DAS, S.D.BENNANI , M.EL GHZAOUI
BER performance improvement in CE-OFDM-CPM system using Equalization Techniques over Frequency-Selective Channel
  J.Mestoui, M.El ghzaouia, A.Hmamou, J.Foshi
Effective Complex Permittivity Determination and Microwave Absorption Properties of a Granular Dielectric Composite Material
  Nawfal Jebbora, Seddik Bri, My Cherif El Boubakraoui,
Optimization and Comparison between the efficiency of GaNAsSb and GaInNAs Single Solar Cells deposed on GaAs
  W.Bellil, A.Aissat, J.P. Vilcot

Big Data: Propose an Unified Definition of Big Data
  Mohamed Talha, Anas Abou El Kalam and Nabil Elmarzouqi
The Concept of Fuzzy Linguistic Labels for Studying Decision Systems in Air Transportation
  Alicja Mieszkowicz-Rolka and Leszek Rolka
An Algorithmic Solution for Anti-Tag Collision Problem in Supply Chain Management
  Kamalendu Pal
A Formal Model for the Chain-Branch-Leaf Clustering Scheme in OLSR based Vehicular Ad hoc Networks using Event-B
  Emna Chebbi, Patrick Sondi and Eric Ramat

Technical Sessions   **17:00 - 18:30**

Mesoscopic modelling and analysis of traffic flow based on stationary observations
  Yimin Wang and Zhaocheng He
Incorporation of noise shielding in an agent-based transport model by using volunteered geographic data
  Nico Kuehnel, Ihab Kaddoura and Rolf Moeckel
Comparing Parking Strategies of Shared Autonomous Vehicles with Varying Transport Demand
  Biyu Wang, Sergio Arturo Ordonez Medina and Pieter Fourie
Large-Scale Assignment of Congested Bicycle Traffic Using Speed Heterogeneous Agents
  Mads Paulsen and Kai Nagel

MECST Workshop: MECST-S2
Session Chairs: Mohammed El Ghzaoui, Sidi Mohamed Ben Abdellah University, Morocco & Mohammed
Fattah, Moulay Ismail University, Morocco
Location: Room 4

Multi Band OFDM Alliance Power Line Communication System
M. Fattaha, M. Abdellaouib, S. Mazerb, M. El Ghazib, M. El Bekkalib
Energy harvesting based WBANs: EH optimization methods
Marwa BOUMAIZ, M. EL GHAZI, A. BOUAYAD, S. MAZER, M. FATTAH, M. ELBEKKALI, Y. BALBOUL
Region growing segmentation optimized by evolutionary approach and Maximum Entropy
Mohammed Merzouguia , Ahmad El Allaouib

P2PANS/MLDMSN/RACT-5G-IoT Workshops
Session Chair: Azedine Boulmakoul, Hassan II University of Casablanca, Morocco
Location: Room 5

An energy-efficient gossiping protocol for wireless sensor networks using Chebyshev distance
Arwa Alromih and Heba Kurdi
Cuckoo-Inspired Priority Based Job Scheduling Algorithm in Cloud Computing
Ebtesam Aloboud
Online Authentication Methods Used in Banks and Attacks Against These Methods
Anoud Bani Hani, Munir Majdalawieh and Aisha Al Shamsi
DORM: Narrowband IoT Development Platform and Indoor Deployment Coverage Analysis
*Sikandar Zulqarnain Khan, Hassan Malik, Jeffrey Leonel Redondo Sarmiento, Muhammad Mahtab Alam and
Yannick Le Moullec*
Channel Characterization at 2.4 GHz for Aerial Base Station
Navuday Sharma, Maurizio Magarini, Luca Reggiani and Muhammad Mahtab Alam

Banquet and Award Ceremony   19:00 - 21:00

Location: Banquet Room (Erasmus 1 + 2)

Technical Sessions   **08:30 – 10:00**

ANT Session (ANT-S17): Human Computer Interaction
Session Chair: Elhadi Shakshuki, Acadia University, Canada
Location: Room 1

Transparency for Beyond Accuracy Experience   A Novel User Interface for Articles Recommending System
    Ahmad Hassan Afridi
EyeCon-An Innovative Approach for Computer Interaction
    Haroon Malik

ANT Session (ANT-S18): Modeling and Simulation in Transportation Sciences V
Session Chair: Ahsan Habib, Dalhousie University, Canada
Location: Room 2

Impacts of integrating shared autonomous vehicles into a Peer-to-Peer ridesharing system
    Sunghi An, Daisik Nam and R. Jayakrishnan
Mass Evacuation of Halifax, Canada: A Dynamic Traffic Microsimulation Modeling Approach
    Md Jahedul Alam and Muhammad Habib
Analyzing potential age cohort effects in car ownership and residential location in the metropolitan region of Amsterdam
    Jullian van Kampen, Rob van der Mei, Eric Pauwels and Elenna R. Dugundji
An exploratory empirical analysis of willingness to pay for and use flying cars
    Ugur Eker, Grigorios Fountas and Panagiotis Anastasopoulos
An Exploratory Empirical Analysis of Willingness To Hire And Pay For Flying Taxis And Shared Flying Car Services
    Sheikh Shahriar Ahmed, Grigorios Fountas, Ugur Eker, Stephen Still and Panagiotis Anastasopoulos

ABMTRANS Workshop: ABMTRANS-S5
Session Chairs: Luk Knapen & Ansar Yasar, Hasselt University, Belgium
Location: Room 3

Optimization and simulation of fixed-time traffic signal control in real-world applications
    Theresa Thunig, Robert Scheffler, Martin Strehler and Kai Nagel
Improving speed and realism of an evolutionary minibus network design process
    Gregor Leich and Kai Nagel
Public transport routing including fixed schedule, shared on-demand, and door-to-door services
    Sergio Arturo Ordóñez Medina and Biyu Wang
An agent-based evaluation of transit network design
    Obiora Nnene, Johan Joubert and Mark Zuidgeest
Spatio-temporal Anomaly Detection in Intelligent Transportation Systems
    Mai Hassan, Ali Tizghadam and Alberto Leon-Garcia
Mesoscopic Traffic Flow Model for Agent-Based Simulation
    Felipe de Souza, Omer Verbas and Joshua Auld

European Forum of the SARL Users and Developers (EuSarlCon) Tutorial
Managed by: Stéphane Galland, UTBM, France
Location: Room 4

SSTnK[*]
Special Session on Big Data from Mobility Tracking Knowledge Extraction in Urban Areas
Managed by: Ansar Yasar, Hasselt University, Belgium
Location: Room 5

[*]Special Group Meeting

Coffee Break   **10:00 – 10:25**

Location: Foyer Erasmus

ABMTRANS Workshop: ABMTRANS-S6
Session Chairs: Luk Knapen & Ansar Yasar, Hasselt University, Belgium
Location: Room 3

Optimization and simulation of fixed-time traffic signal control in real-world applications
    Theresa Thunig, Robert Scheffler, Martin Strehler and Kai Nagel
Improving speed and realism of an evolutionary minibus network design process
    Gregor Leich and Kai Nagel
Public transport routing including fixed schedule, shared on-demand, and door-to-door services
    Sergio Arturo Ordóñez Medina and Biyu Wang
An agent-based evaluation of transit network design
    Obiora Nnene, Johan Joubert and Mark Zuidgeest
Spatio-temporal Anomaly Detection in Intelligent Transportation Systems
    Mai Hassan, Ali Tizghadam and Alberto Leon-Garcia
Mesoscopic Traffic Flow Model for Agent-Based Simulation
    Felipe de Souza, Omer Verbas and Joshua Auld

END of Event