

IEEE-INDIN 2016 France

14th International Conference on Industrial Informatics

18 - 21 July 2016

University of Poitiers, Futuroscope-Poitiers, France



Conference Guide



Sponsored by:



At a Glance - Conference Schedule

Tuesday 19 July 2016		Wednesday 20 July 2016		Thursday 21 July 2016	
08:30 - 09:00	Registration, Registration Desk	08:30 - 09:00	Registration, Registration Desk	08:30 - 09:00	Registration, Registration Desk
09:00 - 09:30	Opening Session, Auditorium	09:00 - 10:00	Plenary Session, Auditorium Stefan Bina (B&R Automation)	09:00 - 10:00	Plenary Session, Auditorium Axel Weber (Kuka)
09:30 - 10:30	Plenary Session, Auditorium Tomas Prchal (B&R Automation)	10:00 - 10:30	Coffee-break	10:00 - 10:30	Coffee-break
10:30 - 11:00	Coffee-break	10:30 - 12:30	Parallel Sessions	10:30 - 12:30	Parallel Sessions
11:00 - 12:40	Parallel Sessions Tutorial 1, Room F	12:30 - 14:00	Lunch, Restaurant	12:30 - 14:00	Lunch, Restaurant
12:40 - 14:00	Lunch, Restaurant	14:00 - 15:40	Parallel Sessions	14:00 - 15:40	Parallel Sessions
14:00 - 15:40	Parallel Sessions Tutorial 2, Room F	15:40 - 16:10	Coffee-break	15:40 - 16:10	Coffee-break
15:40 - 16:10	Coffee-break Tutorial 2, Room F	16:10 - 23:00	Futuroscope Visit Gala Dinner, Futuroscope	16:10 - 17:50	Parallel Sessions
16:10 - 17:50	Parallel Sessions			17:50 - 18:15	Closing Address, Auditorium
18:00 - 23:00	Welcome reception, "Le Musée Auto Moto Vélo"				

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Message from the INDIN 2016 General Co-Chairs

We are honoured and pleased to welcome you in Futuroscope of Poitiers, to the **14th International Conference on Industrial Informatics (INDIN)**, sponsored by IEEE Industrial Electronics Society and Poitiers University. The INDIN 2016 conference is held from 18 to 21 July 2016 at the Futuroscope Convention Center in Poitiers, FRANCE.

The purpose of the IEEE INDIN international conference is to provide a forum for presentation and discussion of the state-of-art and future perspectives of industrial information technologies. Industry experts, researchers and academics are gathering together to share ideas and experiences surrounding frontier technologies, breakthroughs, innovative solutions, research results, as well as initiatives related to industrial informatics and their applications.

This is the fourteenth in the series following the previous ones being hosted as follows: Vienna, Austria (2007), Daejeon, Korea (2008), Cardiff, UK (2009), Osaka, Japan (2010), Lisbon, Portugal (2011), Beijing, China (2012), Bochum, Germany (2013) and Porto Alegre, Brazil (2014) and Cambridge UK (2015).

We would like to express gratefulness to program Co-chairs, special sessions Co-chairs, technical tracks Co-chairs, organizing committee as well as tutorial Co-chairs for their help and their enthusiastic involvement for the success of INDIN 2016. They have all worked efficiently to the success of the present conference.

In addition, we wish to acknowledge and thank the multitude of reviewers for their time, efforts and timely review of technical papers of this conference.

We express a special thanks to the local organising committee which consists of members of RoBioSS Team of Pprime Institute, staff of the department of Mechanical Engineering and Complex Systems of Pprime Institute as well as Poitiers University students.

On behalf of IEEE-Industrial Electronics Society (the main sponsor of this conference series) and University of Poitiers, we welcome you to the conference in futuroscope convention centre. We hope you will enjoy the intellectual stimulation prepared for you in this conference through the various technical tracks, special sessions and in addition to the three plenary presentations from speakers involved in industrial informatics.

University of Poitiers, founded in 1431, is one of the oldest universities in France. Some of students, of the University of Poitiers, became world-known philosophers such as Guez de Balzac, François Rabelais, René Descartes, etc.

In addition to the intellectual stimulation of this conference technical program, the conference has prepared for you a free visit to the world-famous theme park "Futuroscope". The visit will be within the Gala dinner program. Delegates, and their partners, can also take a time to visit Futuroscope after the conference to enjoy all attractions and shows offered by this park. We also hope that take advantage for your visit to Poitiers and enjoy its rich heritage

We hope you become a member of IEEE Industrial Electronics Society to enjoy all the technical activities at a reduced rate.

We look forward to welcome you to the INDIN 2016 Conference in Futuroscope of Poitiers.



Professor Saïd Zegloul
University of Poitiers



Yousef Ibrahim
Federation University

IEEE INDIN 2015 General Co-Chairs

INDIN 2016 Organizing Committees

Honorary Chairs

Yves Jean (France)
Jean-Claude Croizet (France)
David Battersby (Australia)
Bogdan Wilamowski (USA)
Gérard Capolino (France)
John Hung (USA)

General Chairs

Said Zeghloul (France)
Yousef Ibrahim (Australia)

Program Chairs

Luis Gomes (Portugal)
Kim Man (Hong Kong)
Armando Colombo (Germany)

Finance Chairs

Catherine De Saint Martin (France)
Laurence Artus (France)
Estelle Ferdinand (France)
Med Amine Laribi (France)
Terry Martin (USA)

Publicity Chairs

Med Amine Laribi (France)
Jean-Pierre Gazeau (France)
Antonio Luque (Spain)

Tutorial Chairs

Pierre Laguillaumie (France)
Thilo Sauter (Austria)

Special Session Chairs

Kim Man (Hong Kong)
Juan Jose Rodriguez-Andina (Spain)
Mike Hobbs (UK)
Gerhard P. Hancke (South Africa)
Jan Haase (Austria)
Marco Liserre (Germany)
Lucia Lo Bello (Italy)
Zhiwei Gao (UK)

Publication Chairs

Med Amine Laribi (France)
Jean-Pierre Gazeau (France)
Andrés A. N. Meléndez (Spain)

Exhibition Chairs

Pierre Laguillaumie (France)
Philippe Vulliez (France)
Jean-Pierre Gazeau (France)

Local Organising Committee

Med Amine Laribi (France)
Jean-Pierre Gazeau (France)
Pascal Seguin (France)
Antoine Eon (France)
Cédric Bouquet (France)
Fabien Courrèges (France)
Majdi Khoudeir (France)
Marc Arsicault (France)
Pierre Laguillaumie (France)
Philippe Vulliez (France)

Technical Track Co-Chairs

TT01. Technologies and Infrastructures

Peter Palensky (Netherland)

Dietmar Bruckner (Austria)

TT02. Cognitive and Computational Intelligence

Ladjel Bellatreche (France)

José Barata (Portugal)

TT03. Distributed, Embedded & Networked Control Systems

Olivier Bachelier (France)

Carlos Eduardo Pereira (Brazil)

Shyh Wei Teng (Australia)

TT04. Real-Time and Embedded Computing

Pascal Richard (France)

Luis Ribeiro (Sweden)

TT05. Factory Automation

Lucia Lo Bello (Italy)

Shen Yin (China)

TT06. Human-Machine Interfaces

Kang Hyun Jo (S. Korea)

Milos Manic (USA)

TT07. Mechatronics and Robotics

Peter Korondi (Hungary)

Damien Chablat (France)

Loffi Romdhane (UAE)

TT08. Energy Efficiency

Seddik Bacha (France)

Mo-Yuen Chow (USA)

Federico Baronti (Italy)

TT09. Wireless, Cyber-Physical and Cloud Technologies

Paulo Leitão (Portugal)

KF Tsang (Hong Kong)

Rodolphe Vauzelle (France)

TT10. Tools and Applications

Valery Vyatkin (Sweden)

Alois Zoitl (Austria)

TT11. New and Emerging Paradigms

Xinghuo Yu (Australia)

Eric Monmasson (France)

Huijun Gao (China)

Special Session Organisers

SS01. Big Data and Advanced Data Analytics in the Context of Manufacturing Systems

Martin Atzmüller
Felix Jordan
Benjamin Klöpper
Julian Krumeich

SS02. Advanced Signal processing methods and pattern and image recognition techniques for condition monitoring of electrical machines

Jose A. Antonino-Daviu
Vicente Climente-Alarcon

SS03. Big data driven digital ecosystems and their knowledge management

Shastri L. Nimmagadda
Amit Rudra

SS04. Monitoring, Diagnostic and Prognostic Methods and Industrial Applications

Zhiwei Gao
Shen Yin

SS05. Cyber-Physical Systems: from technological solutions to real industrial applications

Damien Trentesaux
Paulo Leitão
Armando Colombo

SS06. Digital Holography for Industrial Applications

Peter Wai Ming
T.-C. Poon

SS07. Industrial Wireless Networking

Mikael Gidlund
Johan Åkerberg

SS08. Biologically-Inspired Cognitive Architectures in Dependable Cyber-Physical Systems

Evgeny Osipov
Valeriy Vyatkin

SS09. Computational Intelligence: The Enabler for Smarter Grids

Ahmed F. Zobaa
Alfredo Vaccaro
Loi Lei Lai

SS10. Industrial Internet and Engineering of Automation Systems

Valeriy Vyatkin
Jose Luis Martinez Lastra

SS11. Vision-Based Systems for Danger Detection

Giancarlo Iannizzotto
Marco Porta

SS12. High Dimensionality Reduction Techniques for Information and Industrial Applications

Tommy W S Chow
Jonathan Wu
Haijun Zhang

SS13. Advanced Methodology and Applications of Industrial Software

Narayan Debnath
Takaaki Goto

SS14. Security Aspects in Smart Homes

Jan Haase
Dominik Meyer

SS15. Smart Technology for Wearable Health Care Systems

Kim-Fung Tsang
Wing-Kuen Ling

SS16. IoT, Physical vs Social Sensing and Data Analytics

Robin G Qiu

SS17. Human-Centric Sensing for Industrial Environments

Gerhard P. Hancke
Lei Shu

SS18. Advanced Sensor Networks for Harsh Environments

Gerhard P Hancke Sr.
Jianwei Niu
KF Tsang

SS19. Industrial Applications of Big Data

Hing Kai Chan
Xiaojun Wang
Sai Ho Chung

SS20. 5G and Beyond Mobile Technologies and Applications For IoT

Shahid Mumtaz
Ai Bo
Xianbin Wang
Kim-Fung Tsang

SS21. Information and Communication Technology for Smart Community

Hiroaki Nishi
Kim-Fung Tsang
Moe Alahmad
Joern Ploennigs
Jan Haase

SS22. Knowledge based automated production systems and services-enabled by data analytics

Birgit Vogel-Heuser
Kunpeng Zhu

SS23. Wireless Communication Techniques and Advanced Signal Processing Methods for Life Science Industry

Wing-Kuen Ling
Kim-Fung Tsang

SS24. Embedded Systems & Reconfigurable SoCs

Luis Gomes
Juan J. Rodriguez-Andina

SS25. Mathematical Modeling for the Design and Analysis of Industrial Wireless Sensor Networks

Attahiru Alfa
Gerhard P Hancke Sr.
John Isaac

SS26. Automotive Communications

Lucia Lo Bello
Unmesh Dutta Bordoloi

SS27. Modern Software Engineering Methods for Industrial Automation Systems

Birgit Vogel-Heuser
Herbert Prähofer
Alois Zoitl
Anil Nair
Raoul Jetley

SS28. Distributed Data Processing with Smart Sensors

Gayan Kahandawa
Tanveer Choudhur
Pavel Dzitac
Abdul Md Mazid
Med Amine Laribi

SS29. Applied Modelling, Numerical Simulation, Computation and Optimization

Cheng-Chi Wang
Chao-Lin Kuo

Keynote Speakers

Tuesday, July 19, 09:30 -10:30, Auditorium

Speaker: Tomas Prchal
Technology Manager CNC and Robotics, B&R Automation, Austria

Presentation: **Issues in automation for Industries 4.0**



Speaker Biography

Education:

1992-1997: Technical University in Brno, specialization automation, measurement and cybernetics. State examination in 1997.

Employment history:

1996:

At ElektroMar Brno. Application Engineer, PLC programming (Siemens Simatic).

1997-2004:

At B&R Automation: Application Engineer. Focus on motion applications, CNC applications. International applications (Czech Republic, Germany, India).

2004-2010:

At B&R Automation: Motion Software Development (CNC and robotics)

2011- now:

At B&R Automation: Global Technology Manager, metal and robotics (Business Development department)

Abstract

Robot as a Machine Component

B&R offers the most advanced way of robot integration – seamless integration into machine control. The machine (e.g. press brake, packaging machine, or plastic molding machine) and the robot(s) are using the same processor, memory and timing.

Benefits of robot integration

- Unmatched performance
 - Robot and machine fully synchronized using common network POWERLINK.
- Energy efficiency
 - Common DC-bus for machine and robot drives
- User-tailored solution
 - Customized HMI, program syntax, technology functions
- Space saving
 - One controller for machine and robot
 - Reduction of cabinet space and electric wiring
- Single engineering tool
 - Automation Studio for simulation, programming, testing and commissioning
- Web based diagnostics and remote maintenance
 - Diagnostics of robot via PLC. Errors as text messages - diagnostics up to the motor

Scalable Hardware and Software Platform

Drive System – B&R ACOPOS P3

ACOPOS P3 enables a new dimension of machine and operator safety: the product extends the range of available SafeMOTION functions with Safely Limited Torque (SLT) and Remanent Safe Position (RSP). The combination of SLT with SLS (Safely Limited Speed) enables innovative new solutions at a totally new level of operator protection. RSP is essential for the availability of a safe absolute position after power on without homing. This functionality is essential for the safe operation of robots.

ACOPOS P3 is available as one-, two- and three-axes system. Due to its extremely high power density it saves valuable cabinet space (up to -69% reduced footprint).

ACOPOS P3 features extremely high computing power: a single-axis module can run all control loops (current, speed and position) in a cycle time of 50µs (100µs for a three-axes module). This guarantees highest axes precision and machine productivity.

Safety Functions for Robots

In order for humans and robots to work safely together, robotic movements must be monitored effectively and reliably. Only by integrating safe position and speed data from all axes involved in the kinematic chain can safety be ensured. SafeMOTION technology, in combination with the SafeROBOTICS functions offers a diverse range of possibilities.

Let us see the testing cell at EgRoTec!

mapp Technology

mapp eliminates these recurring programming tasks for developers by providing preconfigured blocks that are easy to use and already extensively tested. Programmers can then concentrate on their main task: implementing machine or system processes in the application software.

mapp blocks are seamlessly integrated into B&R's automation software landscape. This means that any developer who works with Automation Studio can implement mapp blocks to make their work easier and their application software clearer. The end results speak for themselves: increased machine availability, lower maintenance costs and much easier team collaboration.

For these reasons, mapp is an important tool to support the efficiency of companies that can now focus their developers on machine processes in order to enhance their own distinctive and competitive elements. mapp technology also integrates specialized functions optimized for the handling of COMAU robot arms.

Wednesday, July 20, 09:00 -10:00, Auditorium

Speaker: Stefan Bina
Technology Marketing Engineer at B&R Automation, Austria

Presentation: **Open Communication Standards - Key to Success for Industry 4.0**



Speaker Biography

Stefan is responsible for technology consulting and marketing of POWERLINK, OPC UA and openSAFETY at B&R Automation in Austria. He worked at Bilfinger as a trainer in electronic engineering and is also supporting open standards in his private life. Stefan received his M.Sc. degree in electrical engineering and business from the University of Technology Graz in Austria.

Abstract

Industry 4.0 is advertised to be the fourth industrial revolution which aims for a connected and intelligent factory. This enables a dynamic response to product demands. Mass customization is put into focus.

The active organization of manufacturing production processes through intelligent products depends on self-optimization, configuration and diagnosis of the whole production.

One of the main challenges of Industry 4.0 is also to find a standardized technological basis for the interconnection of systems. Only the use of open communication standards such as OPC UA, POWERLINK and openSAFETY ensures the necessary interoperability while meeting needs for real-time communication and secure connectivity, from the sensor to the cloud.

Based on practical examples, the presentation shows a future-oriented integrated automation architecture based on open standards, while it explains the functionality and lays out its resulting benefits.

Thursday, July 21, 09:00 -10:00, Auditorium

Speaker: Axel Weber
Business Development Manager, Division Healthcare at Kuka, Germany

Presentation: **Challenges and trends in the field of medical robotics**



Speaker Biography

Axel Weber received his Bachelor and Diploma degree in electrical engineering from the Technische Universität München, Germany in 2003 and 2004 respectively. After finishing his Diploma thesis at the German Aerospace Center on Medical Robotics in Oberpfaffenhofen, Germany he joined the Nuclear Medicine Department of the Technische Universität München as research assistant in the field of molecular imaging with PET, SPECT and CT.

He was working as the technical manager of the Laboratory for Molecular Imaging in the coordination of preclinical imaging studies.

He followed an offer of Siemens Healthcare in Erlangen, Germany to work on the industrial side of preclinical imaging systems as product and application specialist for the EMEA region. In 2012 Mr. Weber joined KUKA Robotics in Augsburg, Germany as Business Development Manager for Medical Robotics. Since then he is looking for collaborations in academia and industry developing the next generation of medical robotics with the KUKA robotics technology know-how. He is also acting as key account manager for medical robotics since 2015.

Abstract

The presentation will discuss the challenges and trends in medical robotics. It will give an overview in which medical fields robotics are already in use today and where the chances are for further use in future. The ongoing industrial development of collaborative robots, e.g. lightweight robotics, will bring new opportunities for use in different medical applications. Several applications are in the evaluation phase and will be prepared for clinical use as a medical product. The talk will show some examples of users and partners of KUKA robotics from academia to medical technology industry.

Tutorials

Tuesday, July 19, 11:00 -12:40

Tutorial 1. On Big data Driven Digital Ecosystems & Technologies (DEST) and their Knowledge Management.

Location: Room F

Presenters: Dr Shastri L Nimmagadda,
School of Information Systems, Curtin Business School, Curtin University of
Technology, Perth, WA, Australia.

Dr Amit Rudra,
School of Information Systems, Curtin Business School, Curtin University of
Technology, Perth, WA, Australia.

Tuesday, July 19, 14:00 -16:10

Tutorial 2. Industrial Informatics for Future Smart Homes and Buildings

Location: Room F

Presenters: Zhibo Pang,
Principal Scientist, ABB Corporate Research, Sweden

Gordon Padkin,
Thread Group and NXP Semiconductors, Germany

Kim Fung TSANG,
Associate Professor, City University of Hong Kong, Hong Kong

Gerhard Hancke,
Assistant Professor, City University of Hong Kong, Hong Kong

Wing-Kuen Ling,
National Young Thousand People Distinguished Professor, Guangdong University
of Technology, China

Instructions for Oral Session Chairs

Session Chairs are asked to collect their packs from the Registration Desk well before their session. To ensure smooth running of the conference, Session Chairs are kindly asked to strictly respect the schedule.

An evaluation form should be completed for each session by the Session Chairs and left at the registration desk.

All rooms will be equipped with a computer, a video projector and a screen. Presentations must be downloaded to the computer before the session starts. Authors have been asked to meet Session Chairs at the session room a few minutes before the beginning of the session and to provide them with their presentations (in MS Powerpoint or PDF) and short printed biographies (50 words maximum).

The length of oral presentations is restricted to 20 minutes, including questions. The authors are strongly advised to keep their oral presentation within 15 minutes and to leave 5 minutes for discussion with the audience and change of speaker. Session Chairs are kindly asked to closely monitor the timing against the schedule. In case of “no show”, the session must be either suspended until the time the next paper is scheduled or closed if there are no more papers in the session.

Instructions for Presenters of Papers

Authors are kindly requested to meet their Session co-chairs in the session room a few minutes before the scheduled time in order to download their presentation to the computer. They have to provide the co-chairs with a Powerpoint or PDF presentation, as well as a short (50 words maximum) printed biography. Authors must ensure that all fonts needed are embedded in their presentation files.

The files can be downloaded to the computer from a USB key. The use of the author's computer will not be allowed, in order for sessions to run smoothly.

The length of the presentation is restricted to 20 minutes, including questions. Authors are strongly advised to keep their oral presentation within 15 minutes (about 15 slides) and to allow 5 minutes for discussion with the audience and change of speaker.

Oral & Dialogue Sessions

Tuesday 19th of July, 11:00 – 12:40

TT01 - Technologies and Infrastructures

Room A, Chair/s: Loi Lei Lai

PD-000663

Partitioning model for mobile electric vehicle data

Malte Zuch

PD-005487

OPC UA extension for IP Auto-Configuration in Cyber-Physical Systems

Markus Rentschler, Henning Trsek, Lars Duerkop

PD-006092

Co-Simulation with OPC UA

Stephan Hensel, Markus Graube, Leon Urbas, Till Heinzerling, Mathias Oppelt

PD-009482

REDIRNET - Emergency Responder Data Interoperability Network

Aurel Machalek, Dominic Dunlop, Zoltan Balogh, Emil Gatial, Ladislav Hluchy

PD-008788

Chance Constrained Programming Based Optimal Network Reconfiguration in Smart Grid

Shunqi Zeng, Zhao Xu, Fushuan Wen, Loi Li Lai

SS13 - Advanced Methodology and Applications of Industrial Software I

Room B, Chair/s: Narayan Debnath and Takaaki Goto

PD-000884

Towards Patient Flow Optimization in Emergency Departments Using Genetic Algorithms

Hamid Memari, Shahram Rahimi, Bidyut Gupta, Koushik Sinha, Narayan Debnath

PD-005649

A Graph Grammar for Entity Relationship Diagrams

Toshihiro Yoshizumi, Tadaaki Kirishima, Takaaki Goto, Kensei Tsuchida, Takeo Yaku

PD-006173

Subdivision and Homogenization of cells in Heterogeneous Rectangular Dissections by an Octal Grid Graph Model

Koichi Anada, Taikou Ikeda, Youzou Miyadera, Takeo Yaku

PD-006467

Concept for the Detection of Virtual Functional Modules in Existing Plant Topologies

Anna Hahn, Stephan Hensel, Mario Hoernicke, Leon Urbas

PD-006491

Vision Based Adaptive Rail Surface Defects Detection Approach with Morphological Tracking

Canan Taştımur, Mehmet Karaköse, Erhan Akin, Ilhan Aydın

SS29 - Applied Modelling, Numerical Simulation, Computation and Optimization

Room C, Chair/s: Cheng-Chi Wang and Chao-Lin Kuo

PD-001724

Influence of Bearing Number on High Speed Air Rotor Bearing Systems

Kuo-Nan Yu, Chin-Tsung Hsieh, Cheng-Chi Wang, Her-Terng Yau, Ming-Jyi Jang

PD-001732

The Hole Type Design of Rotor for Considering the Dynamic Stiffness of Rotor-Shaft Assembly
Shin-Yong Chen, Jhe-Wei Lin, Jia-Xuan Lu, Te-Tan Liao

PD-003859

Application of Extension Method and Chaos Theory in ECG Identity Recognition System
Meng-Hui Wang, Zong-Yi Lee

PD-004731

A PID Controller for the Underwater Robot Station-Keeping
Chao-Lin Kuo, Chien-Kuo Tsui, Neng-Sheng Pai, Chia-Hung Lin, Shih-Chung Chen, Po-Wei Li

PD-005746

Modified Particle Swarm Optimization Method for MPPT in Photovoltaic Module Arrays
Long-Yi Chang, Yi-Nung Chung, Kuei-Hsiang Chao, Jia-Jing Kao

SS23 - Wireless Communication Techniques and Advanced Signal Processing Methods for Life Science Industry

Room D, Chair/s: Kim Fung Tsang and Rodolphe Vauzelle

PD-000566

Stabilization Of Single Bit High Order Interpolative Sigma Delta Modulators For Analog-To-Digital Conversion In Wireless Mobile Handset Based Electromyogram Acquisition System
Yu-Fan Zeng, Wing-Kuen Ling, Yuping Gui, Zhijing Yang, Qingyun Dai

PD-001759

The graphics of the solutions by learning a RBM: discussion on a special case
Qian Zhang, Zhijing Yang, Chao Huang, Zhihua Yang, Lihua Yang

PD-005355

An Algorithm for Fragile Audio Watermarking by Bit Modification
Kaliappan Gopalan

PD-008427

An indoor office locator for the partially blind
Theunis Els, Deep Bhatt, Bruno Silva, Gerhard P. Hancke

PD-010685

ZigBee LNA Design for Wearable Healthcare Application
Tony Chi Chung Lee, Yi Shen, Wah Ching Lee, Faan Hei Hung, Kim Fung Tsang

SS06 - Digital Holography for Industrial Applications I

Room E, Chair/s: Ting-Chung Poon

PD-009326

Optical Methods for the Analysis of Residual Stresses and Measurement of Displacements in the Nanometric Range
Giancarlo Pedrini, Venancio Martinez-Garcia, Peter Weidmann, Alok Kumar Singh, Wolfgang Osten

PD-003166

Chromatic aberration issue on full-color optical scanning holography [Invited]
Taegeun Kim

PD-001538

Computer-Generated Hologram Authentication via Optical Correlation
Wen Chen

PD-011053

Holographic Lensless Interference Encryption Based on Single Spatial Light Modulator
Dezhao Kong, Liangcai Cao, Hao Zhang, Qingsheng He, Guofan Jin

Tuesday 19th of July, 14:00 – 15:40

TT04 - Real-Time and Embedded Computing**Room A, Chair/s: Jose Barata and Dominik Meyer**

PD-003433

Mixed-Criticality Transactional Memory Controller for Embedded Systems

Zaher Owda, Roman Obermaisser

PD-007536

Robust malfunction diagnosis in process industry time series

Thanasis Vafeiadis, Stelios Krinidis, Chrysovalantou Ziogou, Dimosthenis Ioannidis, Spyros Voutetakis, Dimitrios Tzovaras

PD-007617

Towards a Multi-softcore FPGA Approach for the HOG Algorithm

José Arnaldo Mascagni de Holanda, João Manuel Paiva Cardoso, Eduardo Marques

PD-009792

A Confidence Assessment of WCET Estimates for Software Time Randomized Caches

Pedro Benedicte, Leonidas Kosmidis, Eduardo Quinones, Jaume Abella, Francisco J. Cazorla

PD-007889

A system reconfiguration architecture for hybrid automation systems based in agents and programmable logic controllers

*Tiago Santos, Luis Ribeiro, Andre Dionisio Rocha, Jose Barata***SS13 - Advanced Methodology and Applications of Industrial Software II****Room B, Chair/s: Takaaki Goto and Narayan Debnath**

PD-005525

Wavelet-Based Contour Synthesis to Simulate Injection Molding Process Signals

Christoph Wunck, Martin Ruoff

PD-007137

Context Driven Metadata Representation for SaaS

Amit Mandal, Anirban Sarkar, Narayan Debnath

PD-008184

A Software Approach to Improving Cloud Computing Datacenter Energy Efficiency and Enhancing Security through Botnet Detection

Razvan I. Dinita, Adrian Winckles, George Wilson

PD-000892

LDEPTH: A Low Diameter Hierarchical P2P Network Architecture

*Nick Rahimi, Koushik Sinha, Bidyut Gupta, Shahram Rahimi, Narayan C. Debnath***TT02 - Cognitive and Computational Intelligence****Room C, Chair/s: Loi Lei Lai and Kang-Hyun Jo**

PD-002518

Color filter arrays revisited - Evaluation of Bayer pattern interpolation for industrial applications

Matthias Breier, Wei Li, Constantin Haas, Dorit Merhof

PD-010057

Machine Learning Based Estimation of Ozone Using Spatio-Temporal Data from Air Quality Monitoring Stations

Tapiwa M. Chiwewe, Jeofrey Ditsela

PD-006505

Detecting Illegally Parked Vehicle Based on Cumulative Dual Foreground Difference

Wahyono Wahyono, Alexander Filonenko, Kang-Hyun Jo

PD-009849

A Multipurpose Autonomous Robot for Target Recognition in Unknown Environments

Danilo Avola, Gian Luca Foresti, Luigi Cinque, Cristiano Massaroni, Gabriele Vitale, Luca Lombardi

PD-009962

Artificial Neural Networks used for Pattern Recognition of Speech Signal based on DCT Parametric Models of Low Order

Priscila Rocha, Washington Silva

SS20 - 5G and Beyond Mobile Technologies and Applications for IoT

Room D, Chair/s: Kim Fung Tsang and Rodolphe Vauzelle

PD-001562

Misbehavior Detection in the Internet of Things: A Network-Coding-aware Statistical Approach

Angelos Antonopoulos, Christos Verikoukis

PD-004553

Analysis of Cooperative Transmissions as an Enabling Technology for Smart Grid Data Aggregation: An Experimental Perspective

Muhammad Shahmeer Omar, Syed Ahsan Raza Naqvi, Shahroze Humayun Kabir, Syed Ali Hassan

PD-005711

Optimal Power Control for Energy Efficiency of Device-to-device Communication Underlying Cellular Networks

Yang Yang, Yuan Zhang, Kexin Shi, Jianjun Li

PD-008265

Spectrum Allocation Techniques for Industrial Smart Grid Infrastructure

Saba Al-Rubaye, Anwer Al-Dulaimi, John Cosmos

PD-010758

Device-to-Device Assisted Mobile Cloud Framework for 5G Networks

Muhammad Ikram Ashraf, Syed Tamoor-ul- Hassan, Shahid Mumtaz, Kim Fung Tsang, Jonathan Rodriquez

SS06 - Digital Holography for Industrial Applications II

Room E, Chair/s: Ting-Chung Poon

PD-010502

High-speed holographic metrology: principle, limitations and application to vibro-acoustics of structures

Pascal Picart, Julien Poittevin, François Gautier, Charles Pezerat

PD-009059

Holographic-laser-drawing volumetric display

Kota Kumagai, Yoshio Hayasaki

PD-010294

Optimizations for Robust, High-Efficiency, Waveguide-Based Holographic Video

Scott Gneiting, Daniel E Smalley, Kamran Qaderi, Andrew Henrie, Benjamin Haymore, Stephen McLaughlin, Jacob Kimball, Christopher Leach, Taylor DeGraw

PD-004529

Fast Calculation Techniques for Computer-Generated Holograms

Takashi Nishitsuji, Tomoyoshi Shimobaba, Takashi Kakue, Tomoyoshi Ito

PD-011118

Wavefront modulation by complex amplitude in holographic display

Xin Li, Juan Liu, Yongtian Wang

Tuesday 19th of July, 16:10 – 17:50

TT08 - Energy Efficiency

Room A, Chair/s: Herminio Martinez

PD-000442

Power System load modeling and disaggregation based on dictionary learning

Rahul Sinha, Spoorthy S, Prerna Khurana, M. Girish Chandra

PD-003794

Control Strategy for Extreme Conditions Regenerative Braking of a Hybrid Energy Storage System for an Electric Vehicle

Khaled Itani, Alexandre De Bernardinis, Zoubir Khatir, Ahmad Jammal, Mohamad Oueidat

PD-007099

Power distribution network reconfiguration based on min-cost flow problem

Abdelkrim Ali Zazou, Emmanuel Grolleau, Emilie Chevrier, Richard Pascal, Jean-Paul Gaubert, Ladjel Bellatreche

PD-010499

Improvement of the Controller Algorithms for Active Power Filters operating under Distorted and Unbalanced Grid Voltages

Petre-Marian Nicolae, Dinut-Lucian Popa

PD-007285

An Output-Capacitorless FVF-Based Low-Dropout Regulator for Power Management Applications

Vahideh Shirmohammadli, Alireza Saberkari, Herminio Martinez-Garcia, Eduard Alarcon-Cot

TT03 - Distributed, Embedded and Networked Control Systems

Room B, Chair/s: Jose Barata

PD-004677

Challenges from research to deployment of Industrial Distributed Control Systems

Niclas Ericsson, Tomas Lennvall, Johan Åkerberg, Mats Björkman

PD-007595

Model Predictive Control for the Reference Regulation of Current Mode Controlled DC-DC Converters

Luca Cavanini, Gionata Cimini, Gianluca Ippoliti

PD-007927

Simultaneous TCP and NCS Flows in a UPPAAL Framework with a New AQM Technique

Luciano Mauro Arley Sup, Renato Moraes, Adolfo Bauchspiess

PD-004685

Efficient Load Balancing for Multi-Controller in SDN-based Mission-critical Networks

Nguyen Tien Hai, Dong-Seong Kim

PD-010154

Performance Analysis of Compressed Sensing based Multi-User Detection Technique in Small Packet Transmission Scenario

Guoyu Ma, Yiru Liu, Bo Ai, Xianan Hu, Xiaobing Jiang

SS27 - Modern Software Engineering Methods for Industrial Automation Systems

Room C, Chair/s: Herbert Praehofer and Raoul Jetley

PD-003905

Feature-Oriented Development in Industrial Automation Software Ecosystems: Development Scenarios and Tool Support

Herbert Prähofer, Daniela Rabiser, Florian Angerer, Peter Feichtinger, Paul Grünbacher

PD-006769

Variability Management for Automated Production Systems Using Product Lines and Feature Models
Birgit Vogel-Heuser, Thomas Simon, Juliane Fischer

PD-009989

From Requirements to Code (Re2Code) - A Model-Based Approach for Controller Implementation
Isabel Sofia Brito, João Paulo Barros, Luís Gomes

PD-006343

A Threat-Model for Building and Home Automation
Dominik Meyer, Jan Haase, Marcel Eckert, Bernd Klauer

PD-005835

Chouquet Fuzzy Integral Based Condition Monitoring and Analysis Approach Using Simulation Framework for Rail Faults
Yunus Santur, Mehmet Karakose, Erhan Akin

SS16 - IoT, Physical vs Social Sensing and Data Analytics

Room D, Chair/s: Robin Qiu

PD-000906

Physical-Social Fusion to Assist Public Services in the War against Air Pollution in China
Xunan Zhang, Miao He, Bing Shao, Changrui Ren

PD-000957

Privacy Preserving for Patients' Information: A Knowledge-Constrained Access Control Model for Hospital Information Systems
Runtong Zhang, Donghua Chen, Xiaopu Shang

PD-007781

Toward Smarter Service Systems through Service-oriented Data Analytics
Chie-Hyeon Lim, Paul P. Maglio, Kwang-Jae Kim, Min-Jun Kim, Ki-Hun Kim

PD-009644

Revenue sharing contract based on vertical alliance among competing manufacturers
Liu Xu, Xu Qi, Fan Dandan, Xu Lixia

PD-010022

Integrating Physical and Social Sensing to Enable Smart City Mobility Services
Robin Qiu, Lawrence Qiu, Youakim Badr

SS06 - Digital Holography for Industrial Applications III

Room E, Chair/s: Ting-Chung Poon

PD-001988

Enhanced Autofocusing Scheme in Digital Holography Based on Hologram Decomposition
Shuming Jiao, P.W.M. Tsang

PD-005703

Recent Advances in FINCH Technology
Joseph Rosen, Roy Kelner, Yuval Kashter, Vijayakumar Anand

PD-011029

Experimental Investigation on Sum of Squared Difference between Photon-counting Elemental Images
Seokwon Yeom

SS10 - Industrial Internet and Engineering of Automation Systems I**Room F, Chair/s: Valeriy Vyatkin**

PD-001953

Plant Model Inference for Closed-Loop Verification of Control Systems: Initial Explorations
Igor Buzhinsky, Valeriy Vyatkin

PD-003344

A Study on User-Friendly Formal Specification Languages for Requirements Formalization
Cheng Pang, Antti Pakonen, Igor Buzhinsky, Valeriy Vyatkin

PD-001996

Requirement verification in simulation-based automation testing
Eero Siivola, Seppo Sierla, Hannu Niemistö, Tommi Karhela, Valeriy Vyatkin

PD-007374

Speculative Computation in IEC 61499 Function Blocks Execution - Modeling and Simulation
Dmitrii Drozdov, Victor Dubinin, Valeriy Vyatkin

PD-007242

Reconstruction of Function Block Controllers Based on Test Scenarios and Verification
Daniil Chivilikhin, Ilya Ivanov, Anatoly Shalyto, Valeriy Vyatkin

Wednesday 20th of July, 10:30 – 12:30
TT10 - Tools and Applications I**Room A, Chair/s: Francisco Vasques**

PD-000019

PLC Code Generation Based on a Formal Specification Language
Dániel Darvas, Enrique Blanco Viñuela, István Majzik

PD-006394

Towards an Intelligent Control System for District Heating Plants: Design and Implementation of a Fuzzy Logic based Control Loop
Vitali Vansovits, Aleksei Teplyakov, Kristina Vassiljeva, Eduard Petlenkov

PD-008192

Improving Maintenance Processes with Distributed Monitoring Systems
Hans Fleischmann, Johannes Kohl, Jörg Franke, Andreas Reidt, Markus Duchon, Helmut Krcmar

PD-005878

Engineering of Automation Systems using a Metamodel implemented in AutomationML
Benjamin Brandenbourger, Milan Vathoopan, Alois Zoitl

PD-005886

Solving Circular Dependencies in Industrial Automation Programs
Sreeja Nair, Raoul Jetley

PD-010766

A Simple Strategy for Fall Events Detection
Fouzi Harrou, Nabil Zerrouki, Ying Sun, Amrane Houacine

TT07 - Mechatronics and Robotics II**Room B, Chair/s: Antoni Grau**

PD-008133

Designing a biomimetic model of non-linear elastic safety mechanism for collaborative robots
Fabien Courreges, Med Amine Laribi, Marc Arsicault, Said Zegloul

PD-009822

Adaptive SMC For Trajectory Tracking In FreeForm Grinding
Sophie Klecker, Peter Plapper

PD-005304

Evolving Fuzzy Models for the Position Control of Twin Rotor Aerodynamic Systems

Radu-Emil Precup, Mircea-Bogdan Radac, Emil M. Petriu, Raul-Cristian Roman, Teodor-Adrian Teban, Alexandra-Iulia Szedlak-Stinean

PD-009997

An Interpolation Method Based on Tool Orientation Fitting in Five-Axis CNC Machining

Cong Geng, Yuhou Wu

PD-000256

Multi-motor pressure Management system with minimal energy consumption

Valery Vodovozov, Levon Gevorgov, Zoja Raud

PD-009032

Design of an Application Programming Interface (API) for Commercial Industrial Robots

Sezgin Secil, Cansu Soyleyici, Metin Ozkan, Osman Parlaktuna, Helin Dutagaci, Kaya Turgut, Mustafa Parlaktuna

SS04 - Monitoring, Diagnostic and Prognostic Methods and Industrial Applications I

Room C, Chair/s: Zhiwei Gao

PD-000329

A GPU-Based Method for Robust and Efficient Fault Detection in Industrial Automation Processes

Stefan Windmann, Oliver Niggemann

PD-002429

Improving Clustering Based Anomaly Detection with Concave Hull: An Application in Condition Monitoring of Wind Turbines

Peng Li, Oliver Niggemann

PD-002615

LPV Modelling and LPV Observer-based Fault Detection for Wind Turbine Systems

Hui Shao, Zhiwei Gao, Krishna Busawon

PD-006688

Implementation of nonintrusive monitoring and fault diagnosis in industrial robot system

Jani Jokinen, Jose L. Martinez Lastra

PD-007153

A New Real-time Fuzzy Logic Based Diagnosis of Stator Faults for Inverter-fed Induction Motor Under Low Speeds

Ilhan Aydin, Mehmet Karakose, Erhan Akin

PD-007471

Monitoring and Diagnostic Methods for Voltage Transformers from a Power Group

Petre-Marian Nicolae, Ileana-Diana Nicolae, Marian-Stefan Nicolae

SS18 - Advanced Sensor Networks for Harsh Environments

Room D, Chair/s: Gerhard Hancke Sr. and Jianwei Niu

PD-008389

Effective Communicating Optimization for V2G with Electric Bus

Toshichika Shiobara, Guillaume Habault, Hiroaki Nishi, Jean-Marie Bonnin

PD-008478

A Web-based Swimming Pool Information and Management System

Jaco Marais, Deep Bhatt, Gerhard P. Hancke, Tsotsope Ramotsoela

PD-008567

Underwater Event Identification and Determination in UWSNs

Riliang Xing, Zhangbing Zhou, Jianwei Niu, Lei Shu, Lei Wang

PD-010391

Multimodal biometrical authentication in wireless sensor networks

Brendan Galloway, Gerrit Niezen, Bruno Silva, Gerhard Hancke

PD-010693

High Frequency Sensors for Robust Transmission in Telemedicine System

Yi Shen, Kim Fung Tsang, Iasonas F. Triantis, Tony Chi Chung Lee

PD-010723

Design Of Periodic Window Functions In Filter Window Filter Banks For Harsh Environments

*Wing-Kuen Ling, Chuqi Yang, Jun Xiao, Yufeng Zeng, Baiwei Deng***SS05 - Cyber-Physical Systems: from Technological Solutions to Real Industrial Applications****Room E, Chair/s: Damien Trentesaux and Paulo Leitão**

PD-003573

Balancing preventive and corrective maintenance of aircraft assets: a cyber-physical systems approach

Marco Andreacchio, Abdelghani Bekrar, Rachid Benmansour, Damien Trentesaux

PD-004448

Interaction of Concurrent Processes in Cyber-Physical Systems

Jan T. Bialasiewicz

PD-006904

Cross Benefits from Cyber-Physical Systems and Intelligent Products for Future Smart Industries

José Barbosa, Paulo Leitão, Damien Trentesaux, Armando W. Colombo, Stamatia Karnouskos

PD-007811

Visualising the Digital Twin using Web Services and Augmented Reality

Greyce Schroeder, Natanael Garcia, Ricardo Rodrigues, Charles Steinmetz, Danubia Espindola, Carlos Pereira, Ivan Muller

PD-009741

Holonc Self-Sustainable Systems for Electrical Micro Grids

Adriano Ferreira, Paulo Leitão

PD-001082

A System of Systems Framework for Sustainable Fashion Supply Chain Management in the Big Data Era

*Tm Choi, Bin Shen***SS17 - Human-Centric Sensing for Industrial Environments****Room F, Chair/s: Gerhard Hancke**

PD-008443

A portable IR-UWB based WSN for personnel tracking in emergency scenarios

Tumelo Mogale, Bruno Silva, Gerhard Hancke

PD-008451

An Occupational Health and Safety Monitoring System

Sandiseni Ngubo, Carel Kruger, Gerhard Hancke, Bruno Silva

PD-009539

Indoor Air Quality Management Control Scheme for Smart Community

Hao Ran Chi, Kim Fung Tsang, Chung Kit Wu

PD-010839

A Framework for User-Centric Key Sharing in Personal Sensor Networks

Lavina Dinca, Gerard Hancke

PD-011142

A Energy Efficient Multi-dimension Model for System Control in Smart Environment Systems

Anlong Ming, Hong Luo, Yanchen Ren, Zhibo Pang, Kim Fung Tsang

PD-010782

A Novel Approach to Orientation Estimation Using Inertial Cues and Visual Feature Locality Constraint
Yinlong Zhang, Wei Liang, Jindong Tan

Wednesday 20th of July, 14:00 – 15:40

SS24 - Embedded Systems and Reconfigurable SoCs

Room A, Chair/s: Alfredo Rosado-Muñoz

PD-005738

Efficient OPC UA binary encoding considerations for embedded devices
Chris Paul Iatrou, Leon Urbas

PD-007609

Co-simulation Framework for AUTOSAR Multi-Core Processors with Message-based Network-on-Chips
Moisés Urbina, Hamidreza Ahmadian, Roman Obermaisser

PD-001414

Event-based Encoding from Digital Magnetic Compass and Ultrasonic Distance Sensor for Navigation in Mobile Systems

Juan Barrios-Aviles, Taras Iakymchuk, Alfredo Rosado-Muñoz, Jose V. Francés-Víllora, Manuel Bataller-Mompeán, Juan F. Guerrero-Martinez

PD-011061

Model-Based Co-Engineering and NFP Analysis in Embedded Software Sub-Systems Developed Using Heterogeneous Modeling domains

Padma Iyengar, Arne Noyer, Joachim Engelhardt, Elke Pulvermueller

PD-009903

Output observer for fault detection in linear systems

Lamine Mohamadi, Xuewu Dai, Krishna Busawon, Djemai Mohamed

SS26 - Automotive Communications

Room B, Chair/s: Jose-Alfonso Antonino-Daviu and Jan Bialasiewicz

PD-004006

CAN XR: CAN with eXtensible in-frame Reply

Gianluca Cena, Ivan Cibrario Bertolotti, Tingting Hu, Adriano Valenzano

PD-004952

On the Applicability of an MILP Solution for Signal Packing in CAN-FD

Marco di Natale, Celso Silva, Max Mauro Santos

PD-010375

Realistic Network Performance Analysis for In-Vehicle ADAS Systems

Shrikant Acharya, Shiro Ninomiya

PD-002046

Reporting false indications of startup analysis when diagnosing damper damages in synchronous motors

Jose Antonino-Daviu, Vicente Climente-Alarcon, Alfredo Quijano Lopez, Stephen Hornsey

PD-007641

A Multi-label Classification Approach for the Detection of Broken Bars and Mixed Eccentricity Faults Using the Start-up Transient

George Georgoulas, Vicente Climente-Alarcon, Jose Antonino-Daviu, Chrysostomos Stylios, Antero Arkkio, George Nikolakopoulos

SS04 - Monitoring, Diagnostic and Prognostic Methods and Industrial Applications II**Room C, Chair/s: Zhiwei Gao**

PD-006718

Semantically Enriched Industry Data & Information Modelling: A feasibility study on Shop-floor Incident Recognition

Apostolos Tsolakis, Damiano Arena, Stelios Krinidis, Apostolos Perdikakis, Dimosthenis Ioannidis, Dimitrios Kyritsis, Dimitrios Tzovaras

PD-002402

Takagi-Sugeno Fuzzy Modelling and Robust Fault Reconstruction for Wind Turbine Systems

Xiaoxu Liu, Zhiwei Gao

PD-009717

PLS-Based Memory Control Scheme for Enhanced Process Monitoring

Fouzi Harrou, Ying Sun

PD-006459

Real-Time Condition Monitoring Approach of Pantograph-Catenary System Using FPGA

Mehmet Karakose, Orhan Yaman, Ilhan Aydin, Ebru Karakose

PD-001554

An Online Performance Monitoring Method for Analog Circuit

*Aihua Zhang***SS21 - Information and Communication Technology for Smart Community****Room D, Chair/s: Kim Fung Tsang**

PD-000558

Qrs Complex Detection Based Wearable Electrocardiogram Acquisition System Via Computing Regularity Without Evaluating The Modulus Maxima

Yu-Fan Zeng, Wing-Kuen Ling, Qing Liu, Meilin Wang, Jiangzhong Cao

PD-008273

ECORS: Energy Consumption-Oriented Route Selection for Wireless Sensor Network

Tadanori Matsui, Hiroaki Nishi

PD-008591

The IOT Mediated Built Environment: A Brief Survey

Jan Haase, Mahmoud Alahmad, Hiroaki Nishi, Joern Ploennigs, Kim Fung Tsang

PD-008958

Information Extraction Via Singular Spectrum Analysis For Noninvasive Blood Glucose Estimation System Inspired By Empirical Mode Decomposition

Wing-Kuen Ling, Pei-Ru Lin, Weixi Li, Tuhong Zheng, Chi-Kong Li

PD-009466

RSS-based Localization Algorithm for Indoor Patient Tracking

*Wah Ching Lee, Faan Hei Hung, Kim Fung Tsang, Chung Kit Wu, Hao Ran Chi***TT09 - Wireless, Cyber-Physical and Cloud Technologies****Room E, Chair/s: Paulo Leitão and Rodolphe Vauzelle**

PD-002186

Assessment of Cloud Services: An Economic Perspective

Emre Sezgin

PD-002305

Progress in airborne ultrasonic data communications for indoor applications

Wentao Jiang, William M. D. Wright

PD-005967

Implementation framework for cloud-based holonic control of cyber-physical production systems
Francisco Gamboa Quintanilla, Olivier Cardin, Anne L'Anton, Pierre Castagna

PD-010898

AdapTA: Adaptive Timeslot Allocation scheme for IEEE 802.15.4e LLDN mode
Benedito Bitencort, Ricardo Moraes, Paulo Portugal, Francisco Vasques

SS12 - High Dimensionality Reduction Techniques for Information and Industrial Applications

Room F, Chair/s: Tommy W S Chow and Haijun Zhang

PD-001708

Distributed Diffusion Nonnegative LMS Algorithm Over Sensor Networks
Wei Huang, Xiaolong Deng, Yuzhu Ji, Shengyong Chen

PD-003115

Classifying Vehicles with Convolutional Neural Network and Feature Encoding
Shuang Wang, Zhengqi Li, Haijun Zhang, Yuzhu Ji, Yan Li

PD-003174

A Character-Level Sequence-to-Sequence Method for Subtitle learning
Haijun Zhang, Jingxuan Li, Yuzhu Ji, Heng Yue

PD-003972

Vehicle Route Planning for the Logistics Network Optimization via Multiple Spanning Tree
Mingbo Zhao, Tommy W. S. Chow, K. F. Tsang

PD-009016

Latent Label Consistent K-SVD for Joint Machine Faults Representation and Classification
Zhao Zhang, Weiming Jiang, Lei Jia, Mingbo Zhao, Fanzhang Li

Thursday 21st of July, 10:30 – 12:30

TT10 - Tools and Applications II

Room A, Chair/s: Francisco Vasques

PD-000485

Agile Development of Home Automation System with ThingML
Anatoly Vasilevskiy, Brice Morin, Øystein Haugen, Pål Evensen

PD-009636

Electric Arc Model in PSCAD - EMTDC as embedded component and the dependency of the desired Active Power
Loredana Ghiormez, Manuela Panoiu, Caius Pan, Raluca Rob

PD-007749

Integrating Performance Modeling in Industrial Automation through AutomationML and PMIF
Luca Berardinelli, Emanuel Maetzler, Tanja Mayerhofer, Manuel Wimmer

PD-004472

Enabling Query Based Failure Detection for EH&S Compliance by a Domain Specific Workflow Meta Data Model
Heiko Thimm

PD-004316

Full Integration of MATLAB/Simulink with Control Application Development using OPC Unified Architecture
Haitham Elfahaam, Florian Palm, Sten Grüner, Ulrich Epple

PD-005282

Integrated Power Management System Based on Efficient LDO-Assisted DC/DC Buck Converter
Vahideh Shirmohammadli, Alireza Saberhari, Herminio Martinez-Garcia, Eduard Alarcon-Cot

TT07 - Mechatronics and Robotics II**Room B, Chair/s: Antoni Grau**

PD-009024

A Framework for the Control of a Parallel Manipulator with Several Actuation Modes
Damien Chablat, Ranjan Jha, Stéphane Caro

PD-003808

A New Finger Module for Robotic Hands with Improved Tendon Routing
Mnyusiwalla Hussein, Vulliez Philippe, Gazeau Jean-Pierre, Zeghloul Saïd

PD-002801

An automatic sealing rings grabbing and putting system
Guojin Ma, Yanting Lou, Zhong Li, Mingyu Gao, Yuxiang Yang, Yuanyuan Liu, Zhiwei He, Hongjuan Zhu

PD-008397

Collaborative Localization for Autonomous Robots in Structured Environments
Antoni Grau, Edmundo Guerra, Rodrigo Munguia, Yolanda Bolea

PD-007129

Multi-objective design optimization of the Delthaptic, a new 6-DOF haptic device.
Margot Vulliez, Saïd Zeghloul

PD-010863

An industrial standard based control architecture for multi-robot real time coordination
Harrison Fischer, Philippe Vulliez, Jean-Pierre Gazeau, Saïd Zeghloul

SS25 - Mathematical Modeling for the Design and Analysis of Industrial Wireless Sensor Networks**Room C, Chair/s: Attahiru Alfa and Gerhard Hancke Sr.**

PD-002011

Performance Analysis of Transmission Scheduling in Cognitive Wireless Sensor Networks
Haitham Abu Ghazaleh, Attahiru Sule Alfa

PD-008435

Packets Distribution in a Tree-Based Topology Wireless Sensor Network
Godfrey Apakwu, Gerhard Hancke, Adnan Abu-Mahfouz

PD-008532

Opinion Summarization for Short Texts based on BM25 and Syntactic Parsing
Jianwei Niu, Qingjuan Zhao, Lei Wang, Huan Chen, Shichao Zheng

PD-008923

An Offline Autonomous Vehicular Actuator Control System
Tsotsope Ramotsoela, Derik le Roux

PD-009008

The Role of Queueing Theory in the Design and Analysis of Wireless Sensor Networks: An Insight
Shruti Lall, Attahiru Sule Alfa, Sunil Maharaj

PD-010464

A Key Distribution Scheme using Elliptic Curve Cryptography in Wireless Sensor Networks
Jacques Louw, Gerrit Niezen, Tsotsope Ramotsoela, Adnan Abu-Mahfouz

SS07 - Industrial Wireless Networking**Room D, Chair/s: Johan Akerberg**

PD-005614

Energy Consumption Estimation for TDMA-based Industrial Wireless Sensor Networks
Ivan Muller, Jean Winter, Carlos Eduardo Pereira, Valner Brusamarello, Joao Cesar Netto

PD-006157

Handling Event-Triggered Traffic of Safety and Closed-loop Control Systems in WSANs
Mehrzad Lavassani, Filip Barac, Mikael Gidlund, Tingting Zhang

PD-008206

An Empirical Study of Industrial Real-Time Wireless Mesh Network in Field Deployments
Mark Nixon, Paul Muston, Shaobo Zheng, Tao Gong, Eric Rotvold, Wally Pratt, Song Han

PD-009474

A New Wireless Sensor Network TDMA Timing Synchronization Protocol
Tomas Lennvall, Johan ÅKerberg, Ewa Hansen, Kan Yu

PD-010731

A Framework for MAC Layer Wireless Intrusion Detection & Response for Smart Grid Applications
Batool Talha, Apala Ray

PD-010871

Balancing Network Performance and Network Security in a Smart Grid Application
Apala Ray, Johan Akerberg, Mats Bjorkman, Mikael Gidlund

SS10 - Industrial Internet and Engineering of Automation Systems II

Room E, Chair/s: Birgit Vogel-Heuser

PD-003654

Enabling Smart Maintenance Services: Broker-based Equipment Status Data Acquisition and Backend Workflows

Martin Maritsch, Christian Lesjak, Andreas Aldrian

PD-001902

Hardware-Secured and Transparent Multi-Stakeholder Data Exchange for Industrial IoT

Christian Lesjak, Holger Bock, Daniel Hein, Martin Maritsch

PD-007218

A composite metric for dynamic routing in networked control systems.

Le-Duy-Lai Nguyen, Laurent Lefevre, Denis Genon-Catalot

PD-005541

Plant descriptions for engineering tool interoperability

Oscar Carlsson, Daniel Vera, Jerker Delsing, Bilal Ahmad, Robert Harrison

PD-006521

An approach for integrating legacy systems in the manufacturing industry

Naveen Govindarajan, Borja Ramis Ferrer, Xu Xiangbin, Angelica Nieto, Jose Luis Martinez Lastra

PD-003328

Dynamic Online Reconfiguration in Manufacturing Systems using SOSJ Framework

Udayanto Dwi Atmojo, Zoran Salcic, Kevin I-Kai Wang

Thursday 21st of July, 14:00 – 15:40

TT05 - Factory Automation I

Room A, Chair/s: Marco Stefano Scroppo

PD-000221

The Need for Shaping Non-Time-Critical Data in PROFINET Networks

Sven Kerschbaum, Kai-Steffen Hielscher, Reinhard German

PD-000337

Handling Errors in Dynamic Production Environments

Nadine Keddis, Gerd Kainz, Benjamin Brandenbourger, Milan Vathoopan, Alois Zoitl

PD-004545

Guided Semi-Automatic System Testing In Factory Automation

Sebastian Ulewicz, Birgit Vogel-Heuser

PD-004669

A Framework based on CLR Virtual Machine to deploy IEC 61131-3 programs

Salvatore Cavalieri, Marco Stefano Scroppo, Luca Galvagno

PD-007862

Towards a Common Classification of Changes for Information and Automated Production Systems as Precondition for Maintenance Effort Estimation

*Birgit Vogel-Heuser, Thomas Simon, Jens Folmer, Robert Heinrich, Kiana Rostami, Ralf Reussner***SS22 - Knowledge Based Automated Production Systems and Services-enabled by Data Analytics I****Room B, Chair/s:**

PD-003719

Data-Driven Valve Diagnosis to Increase the Overall Equipment Effectiveness in Process Industry

Jens Folmer, Carolin Schröder, Julian Fuchs, Christian Vermum, Birgit Vogel-Heuser

PD-003913

Pattern-Based Control-Code Synthesis

Steffen Henning, Oliver Niggemann, Jens Otto

PD-004162

Optimizing Modular and Reconfigurable Cyber-Physical Production Systems by Determining Parameters Automatically

Jens Otto, Birgit Vogel-Heuser, Oliver Niggemann

PD-007498

Ontology based Semantic-Predictive Model for Reconfigurable Automation Systems

Jiayi Zhang, Bilal Ahmad, Daniel Vera, Robert Harrison

PD-007226

A Combined Fault Diagnosis and Test Case Selection Assistant for Automotive End-of-Line Test Systems

*Sebastian Abele, Michael Weyrich***SS30 - Big Data, Advanced Analytics, and Knowledge Management in Manufacturing Ecosystems I****Room C, Chair/s: Benjamin Kloepper and Shastri Nimmagadda**

PD-004014

Defining Software Architectures for Big Data Enabled Operator Support Systems

Benjamin Kloepper, Marcel Dix, Martin Atzmueller, David Arnu, Ralf Klinkenberg, Lukas Schorer, Ann Ampofo

PD-006963

Anomaly Detection in Sensor Data provided by Combine Harvesters

Ying Gu, Ansgar Bernardi, Thilo Steckel, Alexander Maier

PD-007838

Proactive and Dynamic Event-Driven Disruption Management in the Manufacturing Domain

Suad Sejdovic, Natalja Kleiner

PD-000205

Anomaly Detection on Data Streams for Machine Condition Monitoring

Tobias Brandt, Marco Grawunder, Hans-Jürgen Appelrath

PD-005568

On Big Data Guided Embedded Digital Ecosystems (EDE) and their Knowledge

Shastri Nimmagadda, Gary Burke, Torsten Reiners

SS15 - Smart Technology for Wearable Health Care Systems I

Room D, Chair/s: Kim Fung Tsang

PD-006076

An Electronic Stethoscope for Heart Diseases Based on Micro-Electro-Mechanical-System Microphone
Demiao Ou, Liping OuYang, Zhijun Tan, Hongqiang Mo, Xiang Tian, Xiangmin Xu

PD-008966

Optimal Design Of Both Rectified Layer And Pooling Layer Of Convolutional Neural Network For Noninvasive Blood Glucose Estimation System
Wing-Kuen Ling, Xin Wu, Yuwei Liu, Ju Su, Chi-Kong Li

PD-009148

A Personal High Voltage Safety System with Wear Monitoring
Adriaan Louw, Gerhard P. Hancke, Bruno Silva

PD-009156

A multi-sensor system for detection of driver fatigue
Albert Beukman, Gerhard P. Hancke, Bruno Silva

PD-003689

Enrichment of Performance for Output-Capacitorless LDO Voltage Regulators
Herminio Martinez-Garcia

SS10 - Industrial Internet and Engineering of Automation Systems III

Room E, Chair/s: João-Paulo Barros

PD-004561

Semantic Integration of Multi-Agent Systems using an OPC UA Information Modeling Approach
Max Hoffmann, Philipp Thomas, Daniel Schütz, Birgit Vogel-Heuser, Tobias Meisen, Sabina Jeschke

PD-006475

Implementation of an Industrial Visualization Model for Collaborative Networks
Mohammad Johirul Islam, Borja Ramis Ferrer, Xu Xiangbin, Angelica Nieto, Jose Luis Martinez Lastra

PD-004073

Parameters Selection in Predictive Online Simulation
Gerardo Santillán Martínez, Tuomas Miettinen, Antti Aikala, Jouni Savolainen, Kalle Kondelin, Tommi Karhela, Valeriy Vyatkin

PD-007196

Cloud based solution enabling collaborative supply network optimization for an Original Equipment Manufacturer
Xu Xiangbin, Angelica Nieto, Borja Ramis Ferrer, Roberto Camp, Jose Luis Martinez Lastra

PD-001465

Towards a Model-Integrated Computing Paradigm for Reconfigurable Motion Control System
Di Li, Nan Zhou, Jiafu Wan, Zhenkun Zhai, Athanasios V. Vasilakos

Thursday 21st of July, 16:10 – 17:50

TT05 - Factory Automation II

Room A, Chair/s: Kang-Hyun Jo

PD-007056

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Integrating IoT to manufacturing processes utilizing semantics
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Smoke Detection for Surveillance Cameras Based on Color, Motion, and Shape

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A Wearable Drunk Detection Scheme for Healthcare Applications

Chung Kit Wu, Kim Fung Tsang, Hao Ran Chi

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Wearable Stress Monitoring System Using Multiple Sensors

Fulufhelo Lebepe, Gerrit Niezen, Gerhard Hancke, Tsotsope Ramotsoela

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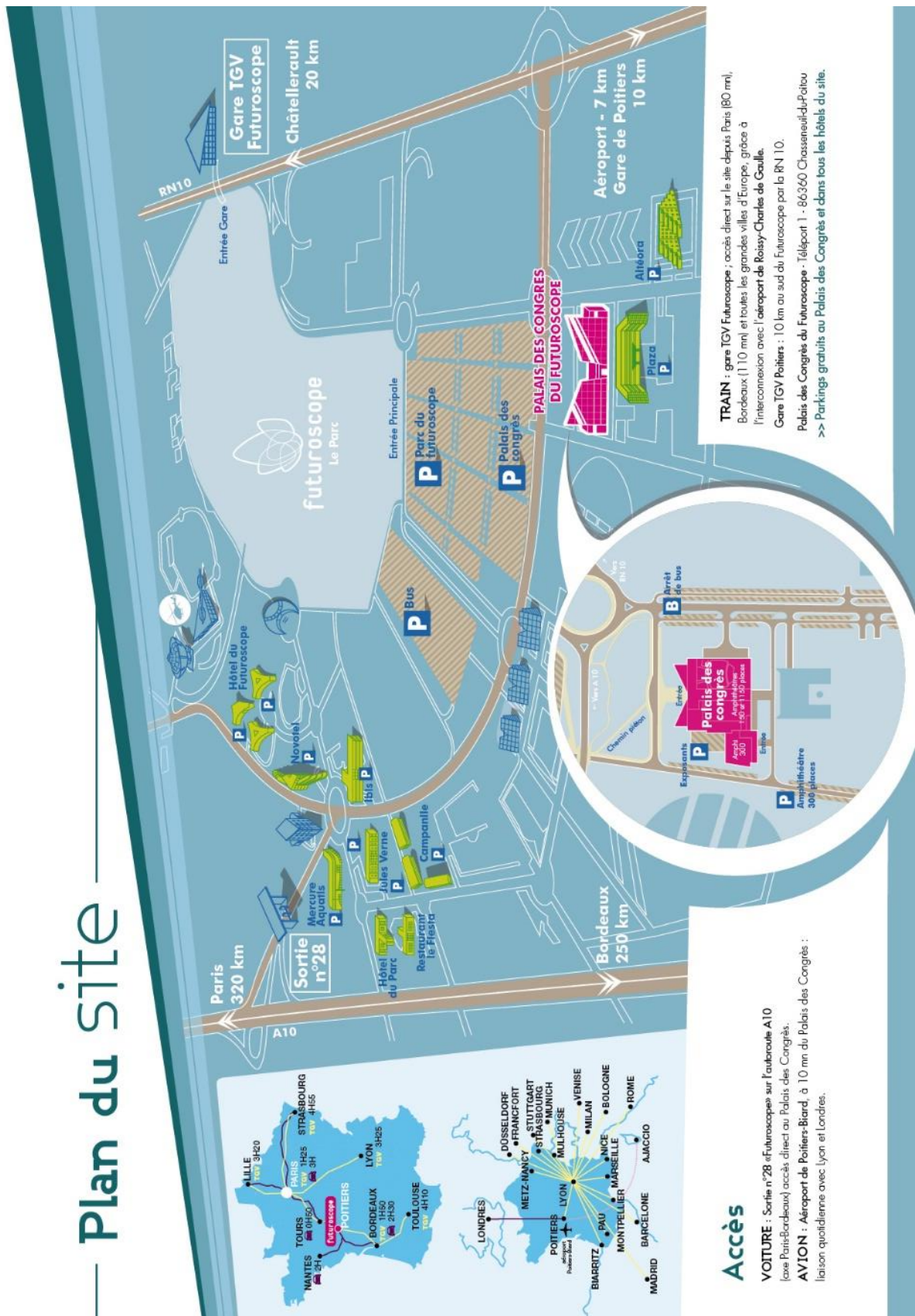
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Plan du site



TRAIN : gare TGV Futuroscope, accès direct sur le site depuis Paris (80 mn), Bordeaux (110 mn) et toutes les grandes villes d'Europe, grâce à l'interconnexion avec l'aéroport de Roissy-Charles de Gaulle.
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Accès
VOITURE : Sortie n°28 «Futuroscope» sur l'autoroute A10 (axe Paris-Bordeaux) accès direct au Palais des Congrès.
AVION : Aéroport de Poitiers-Biard, à 10 mn du Palais des Congrès : liaison quotidienne avec Lyon et Londres.

Maps



Exploring the streets of Poitiers



STREET INDEX

Rue du 19 mars 1962	C3	Rue du 125 ^e Régiment d'infanterie	D3	Rue de Gambetta	C3-C4	Rue du Moulin à Vent	C3	Rue Sainte-Thérèse	A1
Rue du 19 mars 1962	D3	Rue du 125 ^e Régiment d'infanterie	D3	Rue de Gascogne	F1	Rue du Moulin	D1	Rue Saint-Germain	D2
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Rue du Berton (C.)	D3	Rue de Dunes	F5-F6	Boulevard Jeanne d'Arc	C1-C2	Rue des Poppies	F3	Rue Saint-Nicolas	C4
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Rue de Biossac	B5	Place Du Guesclin	D2	Place de la Liberté	D2	Rue de la Prévaté	D2	Rue Saint-Porbare	C4
Rue de Biossac	B5	Passage des Ecosais	B4	Rue de la Liberté	D2	Rue Puits Cypriés	C2	Plan Saint-Simplicien	E5
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Rue Borcenne	D3	Rue Eron	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue Bourchet (Jean)	D2	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue Bourbeau	C2	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue Bourcain	D3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue Bretteville	D3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Place Briand (Aristide)	B4	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue Brioulet (André)	E1	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue Brioulet (André)	E1	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Place de la Cathédrale et du Cardinal Pie	E4	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Place Charles VIII	C3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue du Callon	F3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Plan du Calvère	C5	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue des Carmélites	C2-C3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue des Carmes	E3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue Carnot	C6	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue des Carolis	F3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue de la Cathédrale	D3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Plan de la Celle	D4	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue de la Cella	D3	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue le Cesse	A5	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue de la chaîne	D2	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4
Rue de Champagnie	C2	Avenue de l' Europe	F1	Rue de la Liberté	D2	Rue du Puits Cypriés	C2	Rue Saint-Vincent de Paul	D4



Poitiers, step by step

The centre of Poitiers is the home of 2000 years of history, to which over 80 listed buildings bear witness. The major monuments of the regional capital can be explored through three historic heritage trails offered by the Tourist Office, while the Modern City tour offers a different view of the city through the eyes of planners and architects. These four tours, each taking an hour and a half to two hours, are a chance to discover the Poitiers you love at your own pace.

THE EPISCOPAL DISTRICT...

This tour is an ideal route for discovering several of the city's major buildings: the cathedral of Saint-Pierre, the Saint-Jean baptistry... It follows the ancient Grand'Rue, lined with half-timbered houses, narrow stone façades and beautiful town houses tumbling down the eastern flank of the spur to the Clain river.

THE MONTIEMEU DISTRICT...

With its gently winding course, its narrow façades and the half-glimpsed depth of its inner courtyards and gardens, the Rue de la Chaîne leads you to the church of Saint-Jean-de-Montierneuf and the picturesque neighbourhood around it. As you stroll along the route you can discover squares, churches and town houses at your leisure.

THE SAINT-HILAIRE DISTRICT...

Starting in pedestrian streets, this walk will take you towards the Saint-Hilaire quarter, named after the first known bishop of Poitiers, where you can explore the sites associated with him. It will take you to the church of Saint-Hilaire-le-Grand, a UNESCO World Heritage site under the heading «Routes of Santiago de Compostela».

MODERN CITY...

A different view of Poitiers! A building's design is the heir to all the history and sociology of its period. This understanding is essential for reinterpretation and construction that respects its heritage. This route introduces you to the iconic buildings and urban improvements undertaken since the nineteenth century.

Church of Saint-Germain
Rue Saint-Germain - twelfth to sixteenth century
Built on the site of the ancient thermal baths, this church has undergone several architectural changes.

Church of Saint-Jean-de-Montierneuf
Place Montierneuf - eleventh to seventeenth century
The church of Saint-Jean-de-Montierneuf, founded by William VIII, Count of Poitou and Duke of Aquitaine, was consecrated in 1096 by Pope Urban II.

Hôtel Fumé
Rue René Descartes
fifteenth and sixteenth centuries

This is a prime example of the city's flamboyant Gothic civic architecture, now housing the university's humanities and arts faculty.

Viaduc Léon Blum
Twenty-first century - Jean-François Blassel

The bridge unites the neighbourhoods on either side of the Boivre valley via the rapid-transit buses that cross it. A graceful metal structure gives this massive construction its delicate appearance.

TAP (Theatre & Auditorium of Poitiers)
Rue de la Mame
twenty-first century
João Luís Camilho da Graça

Both a cultural facility and an urban planning project, the TAP invites visitors into the pedestrian heart of the city as soon as they get off the train. Its apaisant glass façades reflect the surrounding architecture and take on monochrome colours as night falls.

Church of Saint-Porchaire
Rue Gambetta
eleventh and sixteenth centuries

With its magnificent Romanesque porch and tower, consisting of three levels, its nave was entirely rebuilt in about 1510.

The Prefecture and Place Aristide Briand
Nineteenth century - Durand and Guérinot

The brick and stone Prefecture takes its inspiration from Louis XIII. The decorative wealth of its reception rooms reveals the power of the state's representative in the nineteenth century; just as the square bears witness to the balance of power with the municipal authorities, the mayor managing to construct a slightly taller building, but the prefect gaining the advantage with a building that opens into the centre of a huge semi-circular square.

Place du Maréchal Leclerc
Twenty-first century - Yves Lion

Mentioned as early as 1058, the square has had several names: «Place du Marché-vieux» in the Middle Ages, «Place Royale» in the seventeenth century, «Place d'Armes» in the nineteenth. A symbol of Poitiers' identity, it constitutes the focal point of the recent urban redevelopment that has emphasised the value of the city's public buildings.

Church of Saint-Hilaire
Rue Saint-Hilaire
eleventh and nineteenth centuries

The bell tower and the eastern part of the building remain from the collegiate church rebuilt in about 1049. The interior consists of a huge nave with several rows of pillars and a raised choir, all bathed in light.

Town Hall
Place du Maréchal Leclerc
nineteenth century

Facing the Prefecture (1868), the façade of the town hall, built in 1875, takes its inspiration from the Renaissance. Inside the hall, staircase and decorated state rooms illustrate the town fathers' desire for prestige.

Palace of the Counts of Poitiers
Entrance square: Place Alphonse le Petit Maubergeon Tower: Rue des Cordeliers
Twelfth and fourteenth centuries
In the Middle Ages, this was the residence of the powerful Counts of Poitou and Dukes of Aquitaine. The huge «hall of lost footsteps», built in about 1200, has an immense wall of fireplaces which were rebuilt, like the Maubergeon Tower, at the end of the fourteenth century.

The media library
Place des Droits de l'Homme
twentieth century - Laurent Beaudoin

The building's contemporary architecture, dominated by wood, concrete and glass, recalls its function and echoes the surrounding built landscape. Its intimate interior spaces, lit by the play of daylight, contrast with its monumental exterior.

Church of Notre-Dame-la-Grande
Place Charles de Gaulle
eleventh and twelfth centuries

In the Middle Ages, when images were rare, all eyes were turned to this jewel of Romanesque art, with its fully sculpted façade, to read its Christian message and appreciate the beauty of its carved scenes. Inside, you can admire the decorated walls of the choir, which date back to the twelfth century.



Bot des Cordeliers
Rue des Cordeliers and Rue du Marche - twenty-first century - Hubert Jeanneau
Since ancient times, religious vocations and commercial activity have always alternated here. The mediaeval remains of the chapel of the Cordeliers convent and the tower at the entrance to the «Maison Varmer» (late nineteenth century) provide living proof. Converted to a shopping centre in 2001, the metal and glass building has retained the character of the department stores of the industrial revolution.

Puygarreau's garden
Rue du Puygarreau
Twenty-first century - Elisabeth Ballet, Didier Marcel and Pierre Joseph

This new garden, laid out over the ancient remains behind the Town Hall, houses three works by contemporary artists which could be confused with elements of traditional garden design: a satin-finish steel fence, a sculpture moulded from a tree trunk and a playground surrounded by images.

Cathedral of Saint-Pierre
Place de la Cathédrale
twelfth and thirteenth centuries

Begun shortly after 1150, at the time of Eleanor of Aquitaine and Henry II of England, the cathedral was the city's first Gothic monument. It houses twelfth-century stained glass of rare beauty and a classical organ (1787-1791) by François Herri Cléroux (1732-1790).

Church of Sainte-Radegonde
Rue du Pigeon Blanc - eleventh, thirteenth and fifteenth centuries

The church houses the tomb of Radegonde, the sixth-century founder of the city's first convent, the abbey of Sainte-Croix.



Baptistry of Saint-Jean
Rue Jean Jaures
fifth and eleventh centuries

The baptistry is one of Europe's few remaining vestiges of the early Christian era. The baptismal pool dates back to the fifth century. Rebuilt in the Carolingian and Romanesque periods, the church retains a beautiful collection of wall paintings from the twelfth and thirteenth centuries.



Guided tours

The Tourist Office and the Greater Poitiers Culture and Heritage department offer guided tours all year round led by «Cities and Lands of Art and History» tour guides. (Information: Poitiers Tourist Office)

Audio tours

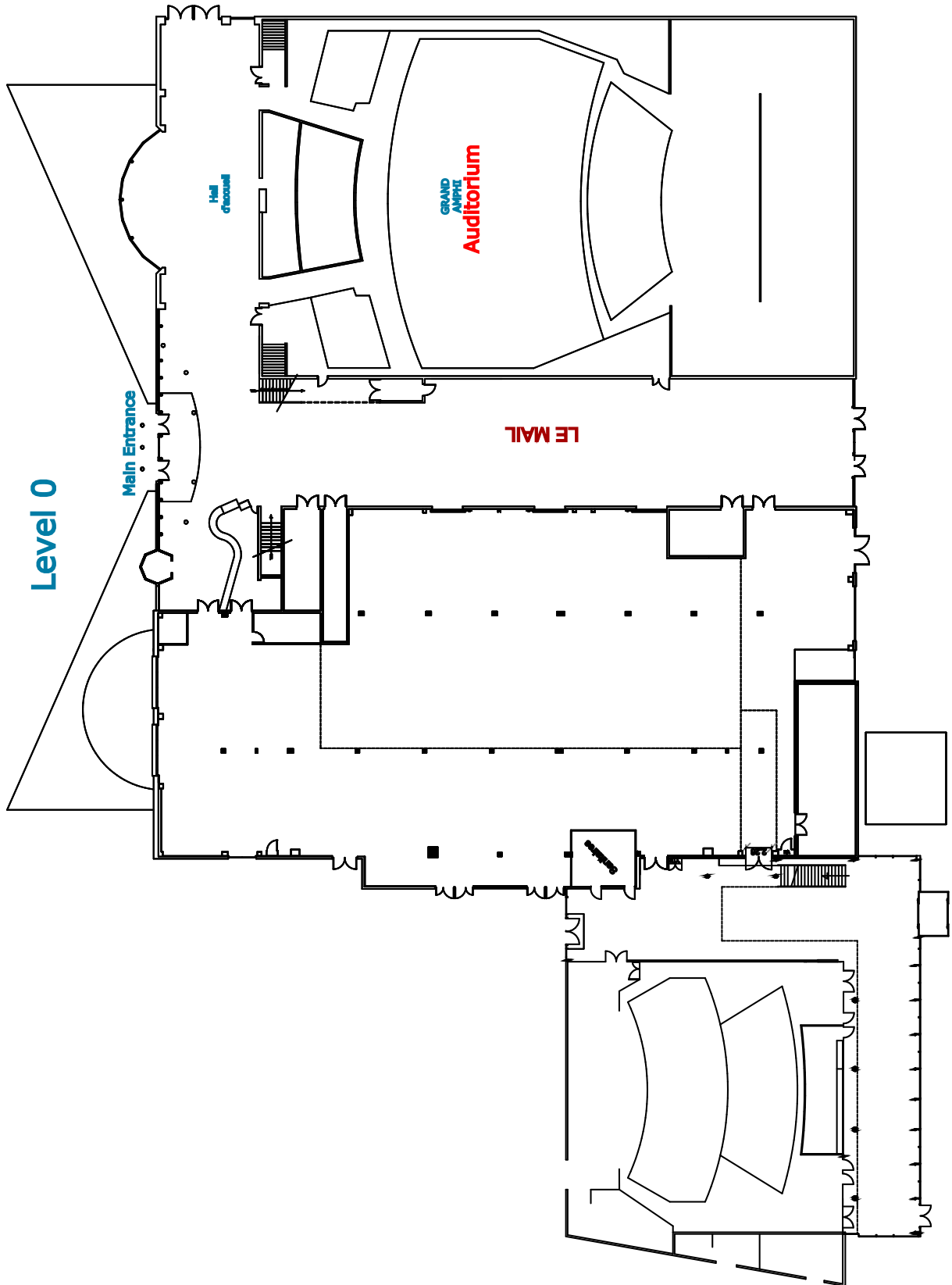
For an interactive tour at your own pace, download the four audio guides free of charge to your MP3 player (from the Tourist Office interactive terminals or www.ot-poitiers.fr) or install the dedicated app «Poitiers-zevisit» on your smartphone. You can also hire an audio guide from the Tourist Office to take full advantage of these tours.

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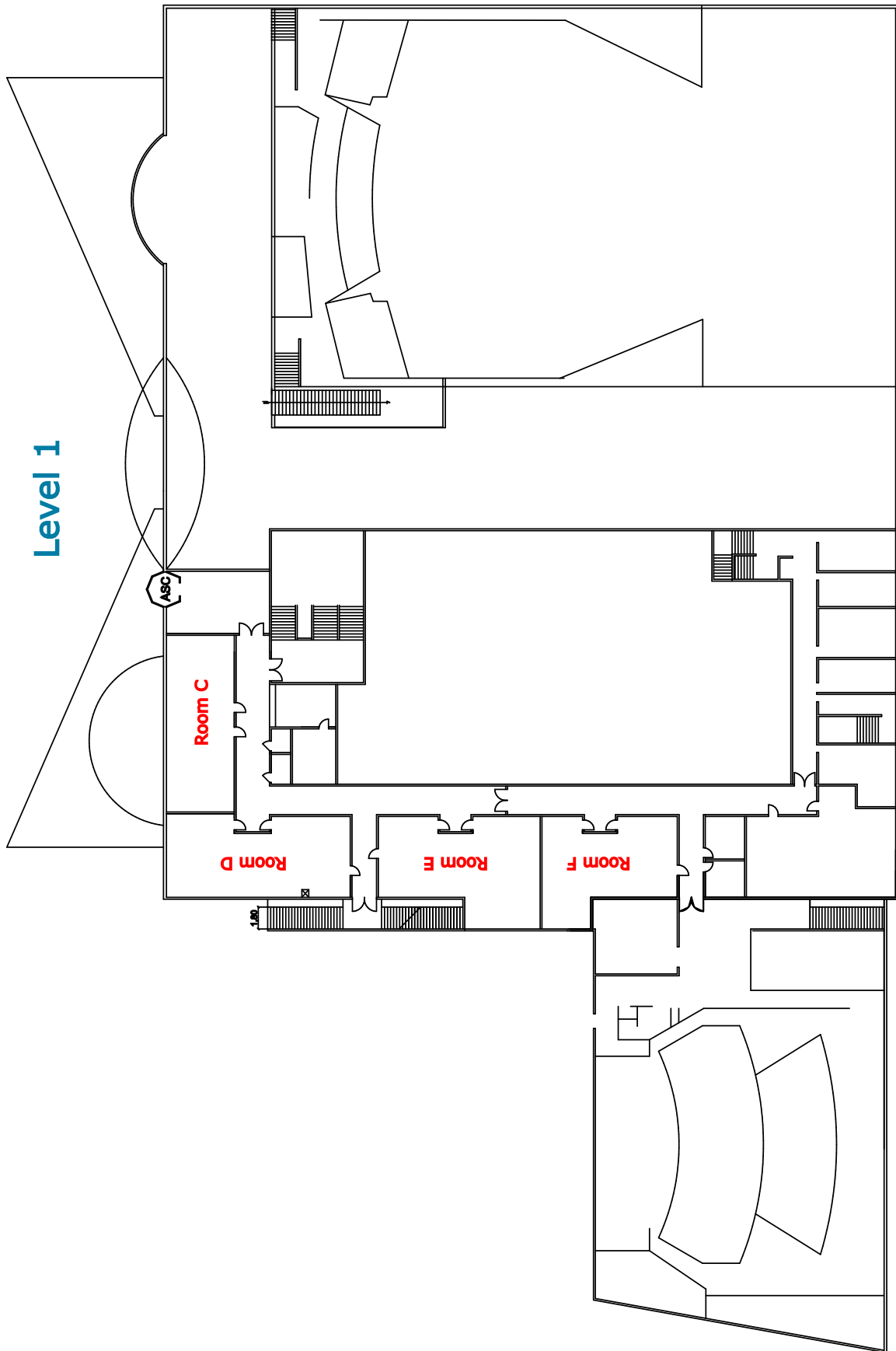
This big treasure hunt, accessible from your smartphone when you download the dedicated app, will take you introduce you to the beautiful monuments and famous women of Poitiers (Eleanor of Aquitaine, Joan of Arc, St Radegonde...). A keen ear and a sense of observation will be essential to succeed in your investigation.

Floor Plans

Palais des Congrès - Level 0

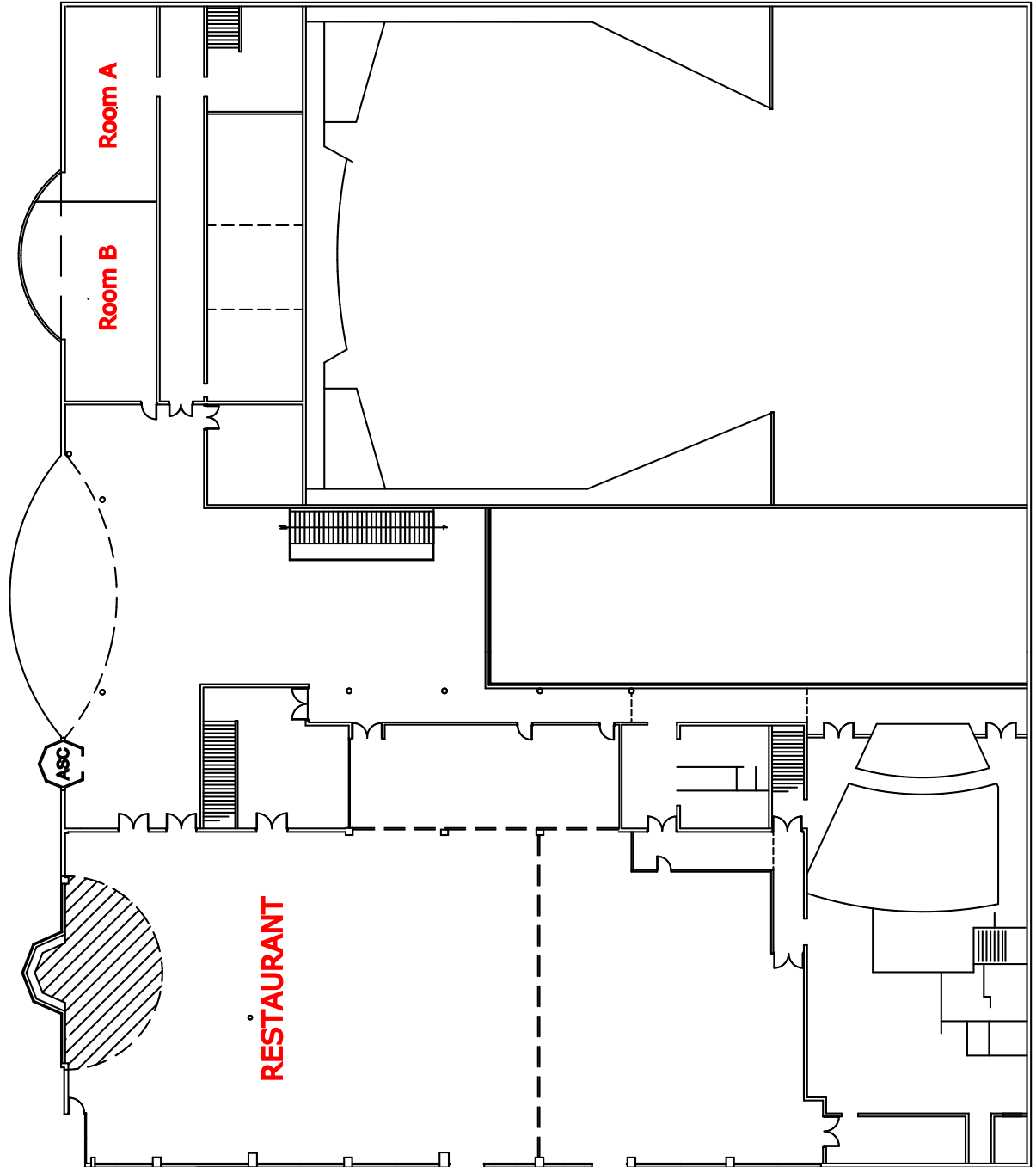


Palais des Congrès - Level 1



Palais des Congrès - Level 2

Level 2



At a Glance - Technical Programme of the Conference

Room	Tuesday 19 July 2016			Wednesday 20 July 2016			Thursday 21 July 2016							
	08:30-09:00	09:30-10:30	11:00-12:40	08:30-09:00	09:00-10:00	10:30-12:30	14:00-15:40	16:10-17:50	08:30-09:00	09:00-10:00	10:30-12:30	14:00-15:40	16:10-17:50	17:50-18:15
Registration Desk	Registration			Registration			Registration							
Auditorium	Opening Session	Plenary Session			Plenary Session					Plenary Session				Closing Session
Room A			TT01			TT10 (I)	SS24				TT10 (II)	TT05 (I)	TT05 (II)	
Room B			SS13 (I)			TT07 (I)	SS26				TT07 (II)	SS22 (I)	SS22 (II)	
Room C			SS29			SS04 (I)	SS04 (II)				SS25	SS30 (I)	SS30 (II)	
Room D			SS23			SS18	SS21				SS07	SS15 (I)	SS15 (II)	
Room E			SS06 (I)			SS05	TT09				SS10 (II)	SS10 (III)		
Room F			T1			SS17	SS12							

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|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| TT01. Technologies and Infrastructures | SS04. Monitoring, Diagnostic and Prognostic Methods and Industrial Applications | SS18. Advanced Sensor Networks for Harsh Environments |
| TT02. Cognitive and Computational Intelligence | SS05. Cyber-Physical Systems: from technological solutions to real industrial applications | SS20. 5G and Beyond Mobile Technologies and Applications For IoT |
| TT03. Distributed, Embedded & Networked Control Systems | SS06. Digital Holography for Industrial Applications | SS21. Information and Communication Technology for Smart Community |
| TT04. Real-Time and Embedded Computing | SS07. Industrial Wireless Networking | SS22. Knowledge based automated production systems and services-enabled by data analytics |
| TT05. Factory Automation | SS10. Industrial Internet and Engineering of Automation Systems | SS23. Wireless Communication Techniques and Advanced Signal Processing Methods for Life Science Industry |
| TT07. Mechatronics and Robotics | SS12. High Dimensionality Reduction Techniques for Information and Industrial Applications | SS24. Embedded Systems & Reconfigurable SoCs |
| TT08. Energy Efficiency | SS13. Advanced Methodology and Applications of Industrial Software | SS25. Mathematical Modeling for the Design and Analysis of Industrial Wireless Sensor Networks |
| TT09. Wireless, Cyber-Physical and Cloud Technologies | SS15. Smart Technology for Wearable Health Care Systems | SS26. Automotive Communications |
| TT10. Tools and Applications | SS16. IoT, Physical vs Social Sensing and Data Analytics | SS27. Modern Software Engineering Methods for Industrial Automation Systems |
| | SS17. Human-Centric Sensing for Industrial Environments | SS29. Applied Modelling, Numerical Simulation, Computation and Optimization |
| T1. On Big data Driven Digital Ecosystems & Technologies (DEST) and their Knowledge Management | | SS30 - Big Data, Advanced Analytics, and Knowledge Management in Manufacturing Ecosystems |
| T2. Industrial Informatics for Future Smart Homes and Buildings | | |

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