

# FET2007 Program

November 7th (wednesday)    November 8th (thursday)    November 9th (friday)

8:30	Registration	Session 3 Rela-time Communications	Session 7-A Applications II
8:45			
9:00	Welcome notes		
9:15			
9:30	Invited Paper		
9:45			Session 7-B Sensor Networks
10:00			
10:15			
10:30	Coffee Break	Coffee Break	Coffee Break
10:45			
11:00			
11:15			
11:30	Session 1 Wireless systems	Session 4 Analysis I	Session 8 Analysis II
11:45			
12:00			
12:15			
			Closing session
12:30			
12:45			
13:00			
13:15	lunch	lunch	lunch
13:30			
13:45			
14:00	Industrial session:	Session5-A Applications I	Visit to Airbus
14:15			
14:30	Applications of embedded systems	Session5-B Wireless Personal Area Networks	
14:45			
15:00			
15:15			
15:30	Coffee Break	Coffee Break	
15:45			
16:00		Session 6-A Work in Progress I	
16:15			
16:30	Session 2 Networked Controlled Systems	Session 6-B Work in Progress II	
16:45			
17:00			
17:15			
17:30			
17:45			
18:00			
18:15	Reception (Toulouse city hall)	Visit to Fundation Bamberg (Hotel d'Assezat)	
18:30			
18:45			
20:00			
23:00		Banquet (Hotel d'Assezat)	

## Invited Paper

Exploiting Spatial Diversity in Wireless Industrial Networks  
*Andreas Willig, Technical University of Berlin - Germany*

## Session I: Wireless Systems

Centralized Control of Wireless Sensor Networks for Real-Time Applications  
*Jianping Song – Song Han – Aloysius K. Mok*  
*University of Texas Austin – USA. Research Blvd. Bldg III – Austin – USA.*

Planning Available WLAN in Dynamic production Environments  
*Svilen Ivanov – Edgard Nett- Stefan Schemmer*  
*Otto-Von-Guericke University – Magdeburg – Germany.*

Impact of the Operating System on the QoS offered by an IEEE 802.15.4 – compliant Sensor Network  
*Mangesh Chitnis – Paolo Gai – Giuseppe Lipari – Poalo Pagano – Antonio Romano*  
*Scuola Superiore Sant'Anna – Pisa(1) Evidence s.r.l. – Pisa - Italy*

Evaluation of UWB Communication for in-flight Entertainment System in the Aircraft Cabin  
*Roxana Albu – Aubin Lecointre – Daniela Dragomirescu – Thierry Gayraud - Pascal Berthou*  
*LAAS CNRS Toulouse University – France.*

## Industrial Session: Application of Embedded Systems

Embedded Networks in Airbus Avionics  
*Nathalie Courmont – Juan Lopez, Airbus.*

On-board Data Links and Networks in Space Applications  
*Olivier Notebaert, EADS Astrium.*

Extended Networks in Automotive Transportation  
*Jean-Luc Mate, Siemens VDO.*

## Session 2: Networked Control Systems

SPEJBL – The Biped Walking Robot

*Marek Peca – Michal Sojka – Zdeněk Hanzálek, Praha Technical University – [Czech Republic](#).*

Networked Control Systems with Information Recovery over Profibus-DP

*Vicente Casanova – Julián Salt – Ángel Cuenca – Ricardo Pizá, Universidad Politécnica de Valencia – [Spain](#).*

A Deterministic Wireless Network for Feedback Control based on IEEE 802.15.4

*Donggil Kim – Seawood Park – Kyungmin Kang – Dongik Lee, Kyongpook National Univeristy – Daegu – [Korea](#).*

Network-Induced Delay Models for CAN based Networked Control Systems

*Rodrigo Vargas-Rodriguez – Rubén Morales-Menedez, Tecnológico de Monterrey – [Mexico](#).*

## Session 3: Real-Time Communications

Performability Evaluation of Profibus-DP Multi-Master Networks in Industrial Relevant Scenarios

*José Carvalho – Andriano Carvalho – Paulo Portugal, EST-FEUP – Porto – [Portugal](#).*

A Runtime Stability Analysis of Clock Synchronization Precision on a Time-Triggered Bus Prototype

*Fabiano C. Carvalho – Edison P. Freitas – Carlos E. Pereira, Federal University of Rio Grande do Sul – [Brazil](#).*

GSC: A Real-Time Communication Scheme for IEEE 802.11E Industrial Systems

*Raimundo Viégas Junior – Ricardo Moraes – Luiz Affonso Guedes – Francisco Vasquez  
Federal University of Rio Grande do Norte – [Brazil](#).*

Sliding Time Interval based MAC Protocol and its Temporal Validation

*K. Godary – D. Andreu – G. Souquet, University of Montpellier 2 – Sophia-Antipolis – [France](#).*

Using Priority Inheritance Techniques to override the size limit of CAN messages

*Cesare Bartolini – Giuseppe Lipari – Luís almeida, Scuola Superiore Sant'Anna – Pisa – [Italy](#).*

## Session 4: Analysis I

Dependency on Prioritized Data in the Delay Analysis of Foundation Fieldbus

*Yong Hee Lee – Seung Ho Hong, Hanyang University – Ansan – [Korea](#).*

Classification and Analysis of Failure Modes for Time-Triggered Systems

*Maria Sorea – Wilfried Steiner, EADS Innovation Works – Munich – [Germany](#).*

On-board Diagnosis Systems for Intermittent Fault : Application in Automotive Industry

*Siegfried Soldati – Michel Combacau – Audine Subias – Jérôme Thomas  
LAAS CNRS – Toulouse University – France. – ACTIA – Toulouse – [France](#).*

A Generic Simulation Model for End-to-End Delays Evaluation on an Avionics Switched Ethernet

*Jean-Luc Scharbag – Christian Fraboul, IRIT – University of Toulouse – ENSEEIHT – [France](#).*

## Session 5-A: Applications I

Virtual Automation Networks. Topology and System Architecture

*Peter Neumann – Axel Pöschmann*

*Institute f. Automation und Kommunikation Magdeburgh – Barleben – Germany.*

Hybrid Wired/Wireless PROFIBUS Architectures: Comparative Performance Analysis in Error-Prone Environment

*Paulo Baltarejo Sousa – Luis Lino Ferreira, IPP-HURRAY! Polytechnic Institute of Porto – Porto – Portugal.*

A Concept for the System Integration of Wireless Sensor Networks to Industrial Automation Systems using PROFINET

*Henning Trsek – Juergen Jasperneite – Gunnar Lessmann, Institute Industrial IT – Lemgo – Germany.*

Security Optimization for Agent Platforms and Reducing Turnaround Time for Mobile Agents

*Najmus Saquib Malik – Albert Treytl, Technical University of Vienna – Vienna – Austria.*

## Session 5-B: Wireless Personal Area Networks

Performance Analysis and Improvement of ZigBee Routing Protocol

*Bilel Nefzè – Ye-Quiong Song, LORIA – Nancy University – Vandoeuvre les Nancy – Nancy – France.*

Prototyping and Performance Analysis of a QoS MAC Layer for Industrial Wireless Network

*Adrien vand den Bossche – Thierry Val – Eric Campo*

*LATTIS EA4155 – IUT Blagnac – Toulouse University – France.*

Beacon Synchronization for GTS Collision Avoidance in an IEEE 802.15.4 Meshed Network

*Jackson Francomme – Gilles Mercier – Thierry Val*

*LATTIS EA4155 – IUT Bagnac - Toulouse University – France.*

AES-CCM Implementation for the IEEE 802.15.4 Devices

*Miguel Leon-Chavez – Francisco Rodriguez Henriquez – Emmanuel Lopez Trejo*

*Benemérita Universidad Atonoma de Puebla – Puebla – Mexico.*

## Session 6-A: Work in Progress I

A Diagnosis Strategy for FDI in Wireless Networked Control System

*C. Berbra – Z.H. Khan – S. Gentil – S. Lesecq – J.M. Thieriet – GIPSA – ENSIFG – Grenoble – France.*

Limits of Performance of Adaptive Variable-Window CSMA

*Marek Miskowicz, AGH University of Science and Technology – Krakow – Poland.*

A Safe and Efficient Protocol for Oasis-Based Distributed Safety-Critical Real-Time Systems

*Damein Chabrol – Jean-Sylvain Camier – Vincent David – Christophe Aussaguès, CEA – Saclay – France.*

Aspect-based Methodology for Real-Time Embedded Control Systems Design

*Rédha Hamouche – Rémy Kocik, COSI Laboratory, ESIEE – France.*

Timed Analysis of Embedded Networks using Timed Automata

*Jérôme Ermont – Jean-Luc Scharbag – Christian Fraboul*

*IRIT – Toulouse University – ENSEEIHT – Toulouse – France.*

Wireless Metropolitan Area Networks for TeleMonitoring Applications

*Javir Silvestre – Victor Sempere – Teresa Albero, Technical University of Valencia - Spain*

## Session 6-B: Work in Progress 2

Probabilistic Real-Time Data Fusion in Wireless Sensor Networks with ZigBee

*A.R. Pinto – Benedito R. Bitencort – Underlea C. Correa – M.A.R. Dantas – Carlos Montes  
Universidade Federal de Santa Catarina – Florianopolis – Brazil.*

A Multi-Sensory, Symbolic, Knowledge-based Model for Humanlike Perception

*Rosemarie Velik – Gerhard Pratl – Roland Lang, Vienna University of Technology – Vienna – Austria.*

Implementation of an Event Triggered Smart Sensor Network Architecture Based on the IEEE 802.15.4 Standard

*Enrico Meneses Leao – Luiz Alffonso Guedes – Francisco Vasques*

*Department of Computer and Automation – UFRN – Natal – Brazil.*

*Department of Mechanical Engineering – University of Porto – Porto – Portugal.*

FDI – The Future of Open Device Integration

*Benjamin Danzer – Daniel Großmann, Technische Universität Munchen – Munich – Germany.*

Modeling of Substation Architecture Implementing IEC 61850 Protocol and Solving Interlocking Problems

*M. Haffar – J.M. Thiriet – E. Savary, GIPSA – ENSIFG – Grenoble – France, EURO-Systems – Varcès – France.*

A Secure Proxy Solution for Profinet IO as a Migration Strategy for Existing Automation Solutions

*Robert Lehmann – Martin Wollschlaeger – Frank Iwanitz*

*TU Dresden – Dresden – Germany, Softing AG Haar – Germany.*

Biped Robot Monitoring using a C.A.N. – WiFi Bridge

*V. Nicolau – M. Albero – J.F. Blanes – J.E. Simo, Universidad Politecnica de Valencia – Valencia – Spain.*

## Session 7-A: Applications II

Scenario Recognition in Modern Building Automation

*R. Lang – D. Bruckner – G. Pratl – R. Velik – T. Deutsch*

*Institute of Computer Technology – Vienna University – Vienna – Austria.*

Multi-agent System for Monitoring of Building Automation Systems

*Volodymyr Vasyutynskyy – Joern Ploennings – Klaus Kabitzsch*

*Dresden University of Technology – Dresden – Germany.*

Netcarbench: A Benchmark for Techniques and Tools used in the Design of Automotive Communication Systems

*Christelle Braun – Lionel Havet – Nicolas Navet – LORIA-INRIA Vandoeuvre les Nancy – Nancy – France.*

Socket-Based CAN Support for Embedded Operating Systems

*Gianluca Cena – Ivan Cibrario Bertolotti – Luca Ferreri – Adriano Valenzano*

*IEIIT – National Research Council c/o Politecnico – Torino – Italy.*

Wide-Area Control System for Balance-Energy Provision by Energy Consumers

*Friederich Kupzog – Peter Palensky*

*Institute of Computer Technology – Vienna University of Technology – Vienna – Austria.*

## Session 7-B: Sensor Networks

On Designing Sensor Networks with Smart Antennas

*Ghalem Boudour – Aubin Lecointre – Pascal Berthou – Daniela Dragomirecu – Thierry Gayraud  
LAAS CNRS – Toulouse University – France.*

Secure Ultrasonic Localization and Authentication for Sensor Networks

*Herbert Schweinzer – Georg Kaniak, Technical University of Vienna – Vienna – Austria.*

A Location-Unaware Distributed Clustering Algorithm for Mobile Wireless Sensor Networks

Using Fuzzy Logic

*S. Nourizadeh – Y.Q. Song – J.P. Thomesse, LORIA Nancy University Vandoeuvre Lés Nancy – France.*

Real-Time QoS Support in Wireless Sensor Networks: a Survey

*Yanjun Li – Chung Sue Chen – Ye-Qiong Song*

*Zhejiang University – China, LORIA-CNRS – Vandoeuvre les Nancy – France.*

## Session 8: Analysis II

Stochastic Network Calculus for End-to-End Delay Evaluation of Avionics Multi-Hop Virtual Links

*Frédéric Ridouard – Jean-Luc Scharbarg – Christian Fraboul*

*IRIT –University of Toulouse – ENSEEIHT – Toulouse – France.*

Performance Analysis of EtherNet / IP Networks

*E. Alessandria – L. Seno – S. Vitturi – Ferrero Ingegneria S.p.A. Piazzale – P. Ferrero 1*

*Alba (CN) – Italy, Italian National Council of Research University of Padova – Padova – Italy.*

Evaluation of Babbling Idiot Failures in FlexRay-Based Networks

*Vahid Lari – Mehdi Dehbashi – Seyed Ghasem Miremadi – Mojtaba Amiri*

*Sharif University of Technology – Tehran – Iran.*