2011 11th International Conference on ITS Telecommunications

(ITST 2011)

St. Petersburg, Russia
23-25 August 2011
Program

Tuesday, August 23

Conference opening

Mr. Albert Efimov "Information and Computer Technology Cluster of Skolkovo Foundation"

Keynote by Dr. Russell Hsing and Dr. Piotr Szczechowiak "Vehicular Networks and Telematics Applications: Next ICT industry for the knowledge-based economy"

Coffee break

Keynote by Dr. Werner Mohr “ICT research cooperation without Borders”

Keynote by Dr. Wolfgang Steinicke "Intelligent Mobility - Key Technologies to make EC White Paper on Transport come true"

Mr. Yuri Chizhkov "Intelligent Transport Systems (ITS) and Safety of Automobile Transport"

Lunch

S1: VANET I

*An Embedded VDTN Testbed for the Evaluation of Vehicular Safety Systems*
Maicke Paula (Institute of Telecommunications, University of Beira Interior, Fiat Automobile, Brazil); Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal); João Dias (Instituto de Telecomunicações, University of Beira Interior, Portugal); João Isento (Instituto de Telecomunicações, University of Beira Interior, Portugal); Lei Shu (Osaka University, Japan)
npp. 1-6

*Replica Voting based Architectures for Reliable Data Dissemination in Vehicular Networks*
Kaliapp Ravindran (City University of New York, USA)
npp. 7-14

*Dissemination Protocols to Support Cooperative Adaptive Cruise Control (CACC) Merging*
Wouter Klein Wolterink (University of Twente, The Netherlands); Geert Heijenk (University of Twente, The Netherlands); Georgios Karagiannis (University of Twente, The Netherlands)
npp. 15-20
**Approximation of the IEEE 802.11p Standard Using Commercial Off-The-Shelf IEEE 802.11a Hardware**
Wim Vandenberghe (Ghent University – IBBT, Belgium); Ingrid Moerman (Ghent University - IBBT, Belgium); Piet Demeester (Ghent University, Belgium)
pp. 21-26

**S2: Routing**

**Traffic Monitoring and Routing in VANETs - A Cluster Based Approach**
Venkata Manoj D (Manipal Institute of Technology, India); Manohara Pai (Manipal Institute of Technology, Manipal University, India); Radhika Pai (Manipal Institute of Technology, India); Joseph Mouzna (Esigelec-Inseem, France)
pp. 27-32

**Routing Packets to Distant Locations in VANETs**
Khaleel W Mershad (American University of Beirut, Lebanon); Hassan A. Artail (American University of Beirut, Lebanon); Haidar Safa (American University of Beirut, Lebanon)
pp. 33-38

**Evaluation of Ad-hoc routing protocols in Vehicular Ad-hoc Network using OPNET**
Xiaozhou Fang (Beijing University of Posts and Telecommunications, P.R. China); Kok Keong Chai (Queen Mary, University of London, United Kingdom); Yasin Alfadhil (Queen Mary University of London, United Kingdom); Yan Sun (Queen Mary, University of London, United Kingdom)
pp. 39-44

**Performance evaluation of a Tree-Based Routing and Address Autoconfiguration for Vehicle-to-Internet Communications**
Marco Gramaglia (IMDEA Networks, Spain); Carlos J. Bernardos (Universidad Carlos III de Madrid, Spain); Maria Calderon (Universidad Carlos III de Madrid, Spain); Antonio de la Oliva (Universidad Carlos III de Madrid, Spain)
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**S25: Miscellaneous I**

**Data Association Techniques for Advanced Driver Assistance Systems using Embedded Soft-core Processors**
Jehangir Khan (IFSTTAR, LOST, France); Charles Tatkeu (IFSTTAR, LOST & Univ Lille Nord de France, France); Pascal Deloof (IFSTTAR, LOST, France); Smail Niar (Université de Valenciennes et du Hainaut-Cambr, France)
pp. 51-55

**Shortest Paths and Probabilities on Time-Dependent Graphs - Applications to Transport Networks**
Sebastien Felix (I3S-Mascotte CNRS-INRIA-UNS and Orange Labs, France); Jerome Galtier (France Telecom R&D, France)
pp. 56-62

**iParking: a Parking Management Framework**
Jatuporn Chirungrueng (Nectec, Thailand); Songphon Dumnin (Nectec, Thailand); Ronachai Pongthornseri (Nectec, Thailand)
pp. 63-68
**Velocity Decision Algorithm for Platooning based on Converging Sequence and Converging Possibility**  
Taisei Tokuda (Keio University, Japan); Masaki Suzuki (Keio University, Japan); Shohei Kanda (Keio University, Japan); Hiroshi Shigeno (Keio University, Japan)  
pp. 69-74

**S3: Channel modeling**

**A Validated 5.9 GHz Non-Line-Of-Sight Path-Loss and Fading Model for Inter-Vehicle Communication**  
Thomas Mangel (BMW Group Research and Technology, Germany); Oliver Klemm (BMW Group Research and Technology, Germany); Hannes Hartenstein (Karlsruhe Institute of Technology, Germany)  
pp. 75-80

**Radio Wave Propagation in Curved Rectangular Tunnels at 5.8 GHz for Metro Applications**  
Emilie Masson (IFSTTAR, LEOST & Univ Lille Nord de France, France); Yann Cocheril (IFSTTAR, France); Pierre Combeau (XLIM University of Poitiers, France); Lilian Aveneau (University of Poitiers, France); Marion Berbione (IFSTTAR, LEOST & University Lille Nord de France, France); Rodolphe Vauzelle (IRCOM SIC University of Poitiers, France); Etienne Fayt (ALSTOM-TIS, France)  
pp. 81-85

**On the Simulation of Weibull Fading for V2X Communications**  
Iulia Ivan (IETR & Renault sas, France); Philippe Besnier (IETR, France); Xavier Bunlon (Renault sas, France); Lois Le Danvic (Renault, France); M’hamed Drissi UEB (INSA of Rennes, France)  
pp. 86-91

**Second order statistics of selection macro-diversity system operating over Gamma shadowed Ricean fading channels**  
Stefan Panić (University of Niš & University of Priština, Serbia); Dragana Krstić (University of Niš, Serbia); Mihajlo Stefanović (University of Nis, Serbia); Sinisa Minić (Teachers College in Prizren - Leposavic, Serbia)  
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**Coffee break**

**S19: Human Factors**

**Study on Psychosomatic Features of Driver’s Distraction Based on Pattern Recognition**  
Masahiro Miyaji (Aichi Prefectural University, Japan); Haruki Kawanaka (Aichi Prefectural University, Japan); Koji Oguri (Aichi Prefectural University, Japan)  
pp. 97-102

**EWMA Based Classification of Driver State**  
Valeriy Naumov (University of Oulu, Finland)  
pp. 103-106

**Social-based Traffic Information Extraction and Classification**  
Napong Wanichayapong (National Electronics and Computer Technology Center, Thailand); Wasawat Pruthipunyaskul (National Science and Technology Development Agency, Thailand);
S4: VANET II

**VANET: Is 95% Probability of Packet Reception safe?**
Natalya An (Karlsruhe Institute of Technology (KIT), Germany); Tristan Gaugel (Karlsruhe Institute of Technology (KIT), Germany); Hannes Hartenstein (Karlsruhe Institute of Technology, Germany)
pp. 113-119

**Efficient Dynamic Scheduling Scheme between Vehicles and Roadside Units based on IEEE 802.11p/WAVE Communication Standard**
Teng Jiang (Beijing University of Posts and Telecommunications, P.R. China); Yasir Alfadhil (Queen Mary University of London, United Kingdom); Kok Chai (Queen Mary, University of London, United Kingdom)
pp. 120-125

**Roadside and Moving WAVE Providers: Effectiveness and Potential of Hybrid Solutions in Urban Scenarios**
Claudia Campolo (University "Mediterranea" of Reggio Calabria, Italy); Hector Agustin Cozzetti (Istituto Superiore Mario Boella, Italy); Antonella Molinaro (University "Mediterranea" of Reggio Calabria, Italy); Riccardo M. Scopigno (Istituto Superiore Mario Boella, Italy)
pp. 126-132

**Performance Analysis of Broadcast Protocols in VANETs with Poisson Vehicle Distribution**
Stefano Busanelli (University of Parma, Italy); Gianluigi Ferrari (University of Parma, Italy); Roberto Gruppini (University of Parma, Italy)
pp. 133-138

S5: ITS I

Ilya Kolmanovsky (University of Michigan, USA); Kevin McDonough (University of Michigan, USA); Oleg Gusikhin (Ford, USA)
pp. 139-144

**Intelligent Transportation Systems based on Internet-Connected Vehicles: Fundamental Research Areas and Challenges**
George Dimitrakopoulos (Harokopion University of Athens, Greece)
pp. 145-151

**Virtual Police Agents for ITS Traffic Routing**
Arturo Gomez (University of Paris 13 & Institut Galilee, France); Gladys Diaz (University of Paris 13 & L2Ti, Institut Galilee, France); Khaled Boussetta (University of Paris 13, France)
pp. 152-157

**Dynamic Traffic Information Sharing for Public Development and Application of ITS**
Wei Du (Southwest Jaotong University, P.R. China); Wei Chen (Southwest Jaotong University, P.R. China)
An Improved Adaptive Modulation Scheme for Closed-Loop MIMO Transmission in Tunnel Environments
Imade Fatani (Université Lille Nord de France, UVHC, IEMN DOAE & UVHC, Valenciennes, France); Yann Cocheril (IFSTTAR, France); François-Xavier Coudoux (University of Valenciennes, France); Marie Zwingelstein-Colin (University of Valenciennes, France); Mohamed Gharbi (Iemn/Doaem Rmn Cnrs, France); Crépin Nsiala (Institut National de REcherche sur le Transport et leur Sécurité, France); Marion Berbineau (IFSTTAR, LEO & University Lille Nord de France, France)
pp. 162-167

A Study on Combining Location Oriented PN code Allocation with Successive Interference Cancellation for IVC
Satoshi Ogata (Tokyo University of Science, Japan); Kohei Ohno (Tokyo University of Science, Japan); Makoto Itami (Tokyo University of Science, Japan)
pp. 168-173

Optimal Duration Five Bit Orthogonal Chaotic Vector Shift Keying Communication: A Case Study
Timothy Wren (University of Sussex & MathTech Consultants Limited, United Kingdom); Tai Yang (Reader in Computer and Control Engineering, United Kingdom)
pp. 174-180

Adaptive Resource Allocation for OFDMA Systems under Peak Power Constraint
Yunxin (Jeff) Li (NICTA & University of Sydney, Australia); Hugh Durrant-Whyte (University of Sydney, Australia); Rob Evans (The University of Melbourne, Australia)
pp. 181-186
Welcome reception / Ship tour

Wednesday, August 24

Dr. Thierry Goger "Strengthening research activities within transport and urban development area: a challenge for the European COoperation in the field of Scientific and Technical Research (COST)"

Keynote by Prof. Riku Jäntti "Cognitive radio - an opportunity and challenge for intelligent transportation systems"

Coffee break

RABAN Workshop, Invited Talk

**Analysis of Multiple Antenna Transmission for HSUPA**
Roman Maslennikov (The University of Nizhny Novgorod, Russia); Alexey Trushanin (Lobachevsky State University of Nizhny Novgorod, Russia); Mikhail Shkerin (Lobachevsky State University of Nizhny Novgorod, Russia); Michael Shashanov (Lobachevsky State University of Nizhny Novgorod, Russia); Przemyslaw J Czerepiński (Nokia Siemens Networks, Poland)
pp. 762-767

TRxITS Workshop

**A Reduced-Complexity Multi-user MIMO Precoding Scheme with Sorted-QR Decomposition and Block-based Power Allocation**
Chih-Hsiang Lin (National Central University, Taiwan); Pei-Yun Tsai (National Central University, Taiwan)
pp. 658-662

**Modified CMA Method and Implementation for Time-Varying OFDM Channel Estimation**
Dah-Chung Chang (National Central University, Taiwan); Chia-Mu Wu (NCU, Taiwan); Chi-Sheng Lin (National Central University, Taiwan)
pp. 663-667

**Distributed Algorithm of Subgradient Optimization for Localization Based on Received Signal Strength in Wireless Network**
Pei-Yun Tsai (National Central University, Taiwan); Ching-Hsien Wang (National Central University, Taiwan)
pp. 668-672

**A Modified Decision Directed Channel Tracking of 802.11p OFDM System**
Kao Peng Chou (National Central University, Taiwan)
pp. 673-677
### S17: Security

**Symmetric Key Distribution for Car-to-Car/Infrastructure Communication Systems**  
Eriko Ando (Hitachi Ltd., Japan); Yuki Horita (Hitachi Ltd., Japan); Kunihiko Miyazaki (Hitachi Ltd., Japan)  
pp. 187-194

**Navigation without GPS: Fake Location for Mobile Phone Tracking**  
Wichian Premchaiswadi (Siam University, Thailand); Walisa Romsaiyud (Siam University, Thailand); Nucharee Premchaiswadi (Dhurakijpundit University, Thailand)  
pp. 195-200

**Securing Smartphone Based ITS**  
Vasileios Manolopoulos (KTH Royal Institute of Technology, Sweden); Panagiotis (Panos) Papadimitratos (KTH, Sweden); Sha Tao (Royal Institute of Technology (KTH), Sweden); Ana Rusu (Royal Institute of Technology (KTH) Stockholm, Sweden)  
pp. 201-206

### S23: Greening urban mobility

**Link-based Emission Model for Eco Routing**  
Jianchu Kang (Beihang University, P.R. China); Tao Ma (Beihang University, P.R. China); Fajin Ma (Beihang University, P.R. China); Jian Huang (Beihang University, P.R. China)  
pp. 207-212

**Effects and Potentials of LEZ in Europe Do they really work?**  
Dietrich Leihs (Kapsch TrafficCom AG, Austria)  
pp. 213-216

**Power consumption analysis of constant bit rate data transmission over 3G mobile wireless networks**  
Le Wang (Aalto University, Finland); Anna Ukhanova (Technical University of Denmark, Denmark); Evgeny Belyaev (St. Petersburg Institute for Informatics and Automation of RAS, Russia)  
pp. 217-223

### S8: CAM (Context Aware Middleware for Ubiquitous Computing Environments)

**Hybrid Interactions in Pervasive Computing Settings**  
Forough al Sadat Sahafipour (Islamic Azad University of Arak, Iran); Reza Javidan (Shiraz University of Technology, Iran); Hamed Vahdat-Nejad (University of Isfahan, Iran); Mehdi Kadivar (Department of Science, Mathematics Group, Iran)  
pp. 596-599

**Situational Context for Replica Voting based Data Collection in Hostile Environments**  
Mohammad Rabby (City University of New York, USA); Kaliappa Ravindran (City University of New York, USA)  
pp. 600-605
Towards a Dynamic Adaption of Capacity in Mobile Telephony Networks using Context Information
Sebastian Göndör (Deutsche Telekom Laboratories, Germany); Abdulbaki Uzun (Deutsche Telekom Laboratories, Germany); Axel Küpper (TU Berlin, Germany)
pp. 606-612

S9: SCVN (Seamless Connectivity in Vehicular Networks)

Performance Evaluation of IEEE 802.11p for Vehicular Traffic Congestion Control
Aparajitha Murali (University Visvesvaraya College of Engineering, Bangalore University, India); Bhanupriya K (University Visvesvaraya College of Engineering, Bangalore University, India); Smitha Shekar B (University Visvesvaraya College of Engineering, Bangalore University, India); Narendra Kumar (University Visvesvaraya College of Engineering, India)
pp. 732-737

Comparative Investigation of Single-hop and Multi-hop Broadcast Strategies for Information Dissemination in VANETs
Stefano Busanelli (University of Parma, Italy); Gianluigi Ferrari (University of Parma, Italy); Vito Andrea Giorgio (University of Parma, Italy); Nicola Iotti (Guglielmo srl, Italy)
pp. 738-743

Clustered Vehicular Networks: Decentralized Detection *on the Move*
Stefano Busanelli (University of Parma, Italy); Marco Martalò (University of Parma, Italy); Gianluigi Ferrari (University of Parma, Italy)
pp. 744-749

A Fountain Codes-based Data Dissemination Technique in Vehicular Ad-hoc Networks
Veronica Palma (University of ROMA TRE, Italy); Elena Mammi (Fondazione Ugo Bordoni, Italy); Anna Maria Vegni (University of ROMA TRE, Italy); Alessandro Neri (University of ROMA TRE, Italy)
pp. 750-755

A V2X-based approach for reduction of delay propagation in Vehicular Ad-Hoc Networks
Ahmad Mostafa (University of Cincinnati, USA); Anna Maria Vegni (University of ROMA TRE, Italy); Rekha Singoria (University of Cincinnati, USA); Talmai B Oliveira (University of Cincinnati, USA); Thomas Little (Boston University, USA); Dharma P Agrawal (University of Cincinnati, USA)
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RABAN Workshop I

Markov Models of Statistical Multiplexing of Telephone Dialogue with Packet Switching
Oleg Sheluhin (Moscow Technical University of Communication and Information, Russia); Aderemi A. Atayero (Covenant University, Nigeria); Monday Ofor Eyinagho (Covenant University, Nigeria)
pp. 768-772
Analysis of Robust Collision Resolution Algorithm with Successive Interference Cancellation and Bursty Arrivals
Sergey Andreev (Tampere University of Technology, Finland); Eugeny Pustovalov (Saint-Petersburg State University of Aerospace Instrumentation, Russia); Andrey Turlikov (Saint-Petersburg State University of Aerospace Instrumentation, Russia)
pp. 773-778

Lunch

Security Workshop

Short-lived Key Management for Secure Communications in VANETs
Stefano Busanelli (University of Parma, Italy); Gianluigi Ferrari (University of Parma, Italy); Luca Veltri (University of Parma, Italy)
pp. 613-618

Securing Computer Networks Communication By Modifying Computer Network Communication Protocols
Wagdi Youssef (Sourah Council, Egypt)
pp. 619-626

Towards Speed Detection Camera System for a RADAR Alternative
Osman Ibrahim (CEO, Egypt); Hazem Mostafa El-Gendy (Assistant Minister, Egypt); Ahmed ElShafee (Ahram Canadian University, Egypt)
pp. 627-632

TRxITS Workshop

Determination of antenna specification and positioning for efficient railway communication in tunnels of arbitrary cross section
Jorge Avella Castiblanco (IFSTTAR, LEOST & Université Lille Nord de France, France); Divitha Seetharamdoo (IFSTTAR, LEOST & Univ Lille Nord de France, France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France); Michel Ney (TELECOM Bretagne Institute, France); Francois Gallée (Télécom Bretagne, France)
pp. 678-683

Feasibility Analysis of UMTS Handover Logs for Traffic State Estimation
Kuen-Rong Lo (Telecommunication Labs of Chunghwa Telecom, Taiwan); Chih-Yi Chiang (Telecommunication Labs of Chunghwa Telecom, Taiwan); Ju-Yin Chuang (Telecommunication Labs of Chunghwa Telecom, Taiwan); Jian-Kai Chen (Telecommunication Labs of Chunghwa Telecom, Taiwan); Chia-Chen Hung (Telecommunication Labs of Chunghwa Telecom, Taiwan); Wei-Hui Chen (Telecommunication Labs of Chunghwa Telecom, Taiwan)
pp. 684-690

An Automatic Modulation Classification Technique Using High-Order Statistics for Multipath Fading Channels
Pokuan Shih (National Central University, Taiwan); Dah-Chung Chang (National Central University, Taiwan)
pp. 691-696
Tutorial lecture by Prof. Axel Sikora "Synchronization Techniques for Wired and Wireless Networks"

S10: VANET III

**Location-aware service discovery on IPv6 GeoNetworking for VANET**
Satoru Noguchi (Nara Institute of Science and Technology, Japan); Manabu Tsukada (INRIA Paris - Rocquencourt, France); Thierry Ernst (INRIA, France); Atsuo Inomata (NARA Institute of Science and Technology, Japan); Kazutoshi Fujikawa (Nara Institute of Science and Technology, Japan)
pp. 224-229

**Joint IP Networking and Radio Architecture for Vehicular Networks**
Alexandru Petrescu (Commissariat à l'Energie Atomique, France)
pp. 230-236

**Experimental evaluation of an open source implementation of IPv6 GeoNetworking in VANETs**
Thouraya Toukabri (INRIA, France); Manabu Tsukada (INRIA Paris - Rocquencourt, France); Thierry Ernst (INRIA, France); Lamjed Bettaieb (ESPRIT - Tunis, Tunisia)
pp. 237-245

S11: Smart Phone Vehicular Communications

**On the Feasibility of Utilizing Smartphones for Vehicular Ad Hoc Networking**
Wim Vandenberghe (Ghent University – IBBT, Belgium); Ingrid Moerman (Ghent University - IBBT, Belgium); Piet Demeester (Ghent University, Belgium)
pp. 246-251

**iDANS: A Platform for Disseminating Information on a VANET Consisting of Smartphone Nodes**
Dan Sawada (Keio University & Graduate School of Media and Governance, Japan); Masaaki Sato (Keio University, Japan); Keisuke Uehara (KEIO University, Japan); Jun Murai (KEIO University, Japan)
pp. 252-257

**Emergency Message Dissemination System for Smartphones During Natural Disasters**
Xian Wu (University of Twente, The Netherlands); Maciej Mazurowski (University of Twente, Poland); Zhen Chen (University of Twente, P.R. China); Nirvana Meratnia (University of Twente, The Netherlands)
pp. 258-263

S12: Mobility I

**3GPP Evolved Packet Core support for distributed mobility anchors**
Wolfgang Hahn (Nokia Siemens Networks, Germany)
pp. 264-267

**A Layer-2 Approach for Mobility and Transport in the Mobile Backhaul**
Nuutti Varis (Aalto University, Finland); Jukka M J Manner (Aalto University, Finland); Johanna Heinonen (NSN, Finland)
Wireless Backhauling in Intelligent Transportation Systems
Claudio Cicconetti (Intecs S.p.A., Italy); Francesco Galeassi (Intecs S.p.A., Italy); Raffaella Mambrini (Intecs S.p.A., Italy); Michele Rosellini (Intecs S.p.A., Italy); Alessandro Rossi (Intecs S.p.A., Italy)
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Coffee break

RABAN Workshop II

Detection of Abnormal Spikes in Network Traffic Using Multifractal Analysis
Oleg Sheluhin (Moscow Technical University of Communication and Information, Russia); Aderemi A. Atayero (Covenant University, Nigeria); Artem V. Garmashev (Moscow Technical University of Communications and Informatics, Russia)
pp. 779-783

Capacity Analysis and Antenna Selection Strategy for Multi-User Distributed Antenna System
Yuyao Zhao (Tsinghua University, P.R. China); Xin Su (Tsinghua University, P.R. China); Jie Zeng (Tsinghua University, P.R. China); Yuan You (Tsinghua University, P.R. China); Xibin Xu (Tsinghua University, P.R. China)
pp. 784-787

User Demand Prediction Algorithm Used in Mobile Device Driver for Cloud Storage
Alexander Mityakov (St. Petersburg Electrotechnical University LETI, Russia); Dmitry L Petrov (St. Petersburg Electrotechnical University, Russia); Maksim Kostenko (St. Petersburg Electrotechnical University LETI, Russia); Denis Butusov (St. Petersburg Electrotechnical University LETI, Russia)
pp. 788-793

Efficient Baseband Implementation on an SDR Platform
Wen Xu (Intel & Intel Mobile Communications, Germany); Mathias Richter (Universität der Bundeswehr München, Germany); Mirko Sauermann (Intel Mobile Communications, Germany); Fatih Capar (Intel Mobile Communications, Germany); Cyprian Grassmann (Infineon, Germany)
pp. 794-799

Design and Implementation of SRRC IP Generator
Jue Hsuan Hsiao (Oriental Institute of Technology, Taiwan); Yi Hua Chen (Oriental Institute of Technology, Taiwan); Chih Hung Tseng (Oriental Institute of Technology, Taiwan); Pang Fu Liu (Oriental Institute of Technology, Taiwan); Kun Feng Lin (Oriental Institute of Technology, Taiwan)
pp. 800-805

Security Workshop

An ATL Transformation from Natural Language Requirements Models to Business Models of a MDA Project
Narayan Debnath (Winona State University, USA); Maria Leonardi (Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina); Maria Mauco (Universidad Nacional del Centro de la Pcia. de Buenos Aires, Argentina); Laura Felice (Universidad Nacional del Centro de la Pcia. de Buenos Aires, Argentina); German Montejano (Universidad Nacional de San Luis, Argentina); Daniel Riesco (Universidad Nacional de San Luis, Argentina)
pp. 633-639
A Method to evaluate QoS of Web Services required by a workflow
Narayan Debnath (Winona State University, USA); Paola Martellotto (Universidad Nacional de Rio Cuarto, Argentina); Daniel Riesco (Universidad Nacional de San Luis, Argentina); German Montejano (Universidad Nacional de San Luis, Argentina)
pp. 640-645

Implementation of NTRU PKCS using Array for polynomials up to degree 147
Debidas Ghosh (National Institute of Technology, Durgapur, West Bengal, India)
pp. 646-649

Applying Open Networks Communication Authentication
Wagdi Youssef (Sourah Council, Egypt); Hazem Mostafa El-Gendy (Assistant Minister, Egypt)
pp. 650-657

TRxITS workshop

Higher-Order Statistics Based Sequential Spectrum Sensing for Cognitive Radio
Hsing-yi Hsieh (National Central University, Taiwan); Han-Kui Chang (National Central University, Taiwan); Meng-lin Ku (National Central University, Taiwan)
pp. 696-701

MUSIC-Based Multiple CFOs Estimation Methods for CA-OFDM Systems
Chin-Yi Chang (National Central University, Taiwan); Yu-Ting Sun (National Central University, Taiwan); Meng-lin Ku (National Central University, Taiwan)
pp. 702-707

Trust Levels in Peer-to-Peer (P2P) Vehicular Network
Irshad Sumra (Universiti Technologi Petronas, Malaysia); Halabi Hasbullah (Universiti Teknologi PETRONAS, Malaysia); Jamalul-lail Ab Manan (MIMOS Berhad, Malaysia); Mohsin Iftikhar (King Saud University, Saudi Arabia); Iftikhar Ahmad (Universiti Teknologi PETRONAS, Malaysia); Mohammed Yehyah Aalsalem (University of Sydney, Australia)
pp. 708-714

Development of a simulation platform for ACC radar application
François Gallée (Télécom Bretagne, France); Dominique Leroux (Telecom Bretagne, France); Alain Peden (Telecom Bretagne, France); Michel Ney (TELECOM Bretagne Institute, France); Dominique Gruyer (LIVIC-IFSTTAR, France)
pp. 715-720

S13: 2nd workshop on GNSS applications for ITS

Non-Line-Of-Sight GNSS signal detection using an on-board 3D model of buildings
François Peyret (IFSTTAR: French Institute of Sciences and Technology for Transport, Development and Networks, France); David Bétaillé (IFSTTAR, France); Florian Mougel (IFSTTAR, France)
pp. 280-286

GPS/GLONASS Receiver in Land Vehicle: Expectations and Reality
Andrey Botchkovski (Mstar Semiconductor, Russia); Nikolay Mikhailov (Mstar Semiconductor & St. Petersburg State University of Aerospace Instrumentation, Russia); Sergey Pospelov (Mstar Semiconductor, Russia)
pp. 287-292
Performance Evaluation of GNSS Aided Predictive Multihomed NEMO Configurations
József Kovács (Computer and Automation Research Institute, Hungarian Academy of Sciences, Hungary); Laszlo Bokor (Budapest University of Technology and Economics, Hungary); Gabor Jeney (Budapest University of Technology and Economics & Network Security Audit Ltd., Hungary)
pp. 293-298

Combination of RSS localization and ToF ranging for increasing positioning accuracy indoors
Aleksandr Galov (Petrozavodsk State University & RTL-Service Ltd, Russia); Alexei P. Moschevikin (Petrozavodsk State University, Russia); Roman Voronov (Petrozavodsk State University, Russia)
pp. 299-304

A Theoretical Analysis of the Extended Kalman Filter for Data Fusion in Vehicular Positioning
Rafael Toledo-Moreo (University of Murcia, Spain); Dominique Gruyer (LIVIC-IFSTTAR, France); Alain Lambert (Université Paris-Sud XI, France)
pp. 305-310

An Effect of Applying Information Filtering to a Positioning System Using Address Information on Web and Spot Information in Cityscape
Tomotaka Nagaosa (Kanto Gakuin University, Japan); Arata Yuge (Kanto Gakuin University, Japan)
pp. 311-314

Hybrid Vehicle Positioning and Tracking Using Mobile Phones
Sha Tao (Royal Institute of Technology (KTH), Sweden); Vasileios Manolopoulos (KTH Royal Institute of Technology, Sweden); Saul Rodriguez (Royal Institute of Technology KTH, Sweden); Mohammed Ismail (KTH Royal Institute of Technology, Sweden); Ana Rusu (Royal Institute of Technology (KTH) Stockholm, Sweden)
pp. 315-320

Proposal of Position Estimation Algorithm using a Satellite and Shared Data of Receivers
Hironobu Onishi (Shizuoka University, Japan); Hiroyuki Hatano (Shizuoka University, Japan); Yoshihiko Kuwashara (Shizuoka University, Japan)
pp. 321-326

S14: VRUP Workshop (Vunerable Road Users Protection)

From user wishes to system architecture Safety for children going to and from school by bus
Anna Anund (Swedish National Road and Transport Research Institute, Sweden); Tania Dukic (Swedish National Road and Transport Research Institute, Sweden)
pp. 327-331

Protocol and System Design of a Cooperative Pedestrian Safety System
Axel Sikora (University of Applied Sciences Offenburg, Germany); Dirk Lill (Steinbeis Innovation Center Embedded Design and Networking, Germany); Manuel Schappacher (Steinbeis Innovation Center Embedded Design and Networking, Germany); Alexander Gutjahr (Steinbeis Innovation Center Embedded Design and Networking, Germany)
pp. 332-337
Enhancing the reproduction of road signs in automotive HMIs to protect children
Melanie Ganzhorn (University of Stuttgart & IAT, Germany); Frederik Diederichs (University of Stuttgart IAT & Fraunhofer IAO, Germany); Harald Widroither (University of Stuttgart IAT, Germany)
pp. 338-344

Experimental Evaluation of ITST based School Bus Stop Notifications for Car Drivers
Frederik Diederichs (University of Stuttgart IAT & Fraunhofer IAO, Germany); Betina Weber (University of Stuttgart IAT, Germany); Melanie Ganzhorn (University of Stuttgart & IAT, Germany)
pp. 345-350

Cross-Network Information Dissemination in VANETs
Gianluigi Ferrari (University of Parma, Italy); Stefano Busanelli (University of Parma, Italy); Nicola Iotti (Guglielmo srl, Italy); Yossi Kaplan (Cellint Traffic Solutions Ltd, Israel)
pp. 351-356

Experiences from an application for safe transport to and from school A step toward SAFEWAY2SCHOOL
Åsa Viklund (Swedish Transport Administration, Sweden); Katarina Appeltoft (Swedish Transport Administration, Sweden)
pp. 357-360

Intelligent Disaster Management System based on Cloud-enabled Vehicular Networks
Zubaida Alazawi (Swansea University, United Kingdom); Mohmmad B. Abdijabar (Al-Mustansiriya University, Iraq); Saleh Altowaijri (Swansea University, United Kingdom); Rashid Mehmood (Swansea University, United Kingdom)
pp. 361-368

Efficient and Unique Identifier for V2X Events Aggregation in the Local Dynamic Map
Hamid Menouar (QU Wireless Innovations Center, Qatar); Fethi Filali (QU Wireless Innovations Center, Qatar); Adnan Abu-Dayya (QUWIC, Qatar)
pp. 369-374

The Weather Hazard Warning in simTD: A Design for Road Weather Related Warnings in a Large Scale Car-to-X Field Operational Test
Attila Jaeger (Technische Universität Darmstadt, Germany); Sorin A. Huss (Technische Universität Darmstadt, Germany)
pp. 375-380

Impact of Packet Loss on CACC String Stability Performance
Chenxi Lei (University of Twente, The Netherlands); Emiel Martijn van Eenennaam (University of Twente, The Netherlands); Wouter Klein Wolterink (University of Twente, The Netherlands); Jeroen Ploeg (Netherlands Organisation for Applied Scientific Research TNO, The Netherlands); Georgios Karagiannis (University of Twente, The Netherlands); Geert Heijenk (University of Twente, The Netherlands)
pp. 381-386

Efficient Map Based Location Service for VANETs
Ashok D M (Manipal Institute of Technology, Manipal University, India); Manohara Pai ( Manipal Institute of Technology, Manipal University, India); Joseph Mouzna (Esigelec-Irseem, France)
pp. 387-392

S15: VANET IV
**RFTraffic: Passive Traffic Awareness Based on Emitted RF Noise from the Vehicles**
Yong Ding (Karlsruhe Institute of Technology, Germany); Behnam Banitalebi (Karlsruhe Institute of Technology, Germany); Takashi Miyaki (Karlsruhe Institute of Technology, Germany); Michael Beigl (KIT & TecO, Germany)
pp. 393-398

**An Efficient Destination-Based Data Management Policy for Vehicular Networks**
Mildred Caballeros Morales (Kyung He University, Korea); Choong Seon Hong (Kyung Hee University, Korea)
pp. 399-404

**QoS for highly dynamic vehicular ad hoc network optimality**
Prabhakar Rontala Subramaniam (University of KwaZulu-Natal, South Africa); Arunkumar Thangavelu (Vellore Institute of Technology, India); Chitra Venugopal (University of Kwazulu Natal, South Africa)
pp. 405-411

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**Bus tour**

**Thursday, August 25**

**Keynote by Dr. Hendrik Berndt**

**TRxITS Workshop and Discussions**

**Improved Frequency Offset Estimation Technique in IEEE 802.11p Environments**
Wen-Jeng Lin (National Chi Nan University, Taiwan); Jung-Shan Lin (National Chi Nan University, Taiwan); Yu-Ting Sun (National Central University, Taiwan)
pp. 721-726

**Efficient Data Transmission Scheme for MTC Communications in LTE System**
Shiann-Tsong Sheu (National Central University, Taiwan); Chun-Hsiang Chiu (National Central University, Taiwan); Shao-Jung Lu (National Central University, Taiwan); Hsien-Hao Lai (National Central University, Taiwan)
pp. 727-731
Tutorial lecture by Michele Fiorini, Flavio Testi "The maritime navigation from the Titanic to nowadays e-Navigation"

Keynote by Dr. Fan Bai (presented by Dr. Alexey Ushakov) "Vehicular Ad hoc Network and Its Challenges"

Break

Keynote by Mr. Jim Buczkowski "Making Cars Talk: Enabling the Connected Car"

Coffee Break

Panel Discussion: ERA-Glonass: Technological Framework and Applications

S26: Image processing

A novel adaptive support window based stereo matching algorithm for 3D reconstruction from 2D images
Iveel Jargalsaikhan (National Institute of Technology, Karnataka, India); Sumam David (National Institute of Technology Karnataka, India)
pp. 412-418

Development of High Accuracy Congestion Prediction Algorithm Using Series of Camera Detectors
Kittipong Hi-ri-o-tappa (Chulalongkorn University & National Science and Technology Development Agency, Thailand); Wasan Pattara-Atikom (National Electronic and Computer Technology Center (NECTEC), Thailand); Suttipong Thajchayapong (Imperial College London, United Kingdom); Sorawit Narupiti (Chulalongkorn University, Thailand)
pp. 419-425

An Infrared Thermal Image Acquisition System for Intra-Vehicle Applications
Hanna Farhat (IETR-INA Rennes, France); Eric Bazin (IETR-INA Rennes, France); Sylvain Haese (IETR-INA Rennes, France); Ghais El Zein (IETR-INA Rennes, France)
pp. 426-430

Robust Hand Gesture Recognition System using Motion Templates
Shrikant Kulkami (Broadcom Communication Technologies Pvt. Ltd., India); Manoj H (National Institute of Technology Karnataka Surathkal, India); Sumam David (National Institute of Technology Karnataka, India); Venugopala Madumbu (Texas Instruments, India); Y Senthil Kumar (Texas Instruments, India)
pp. 431-435
### S16: VANETs V

**Performance Implications of Fragmentation Mechanisms on Vehicular Delay-Tolerant Networks**  
João Dias (Instituto de Telecomunicações, University of Beira Interior, Portugal); João Isento (Instituto de Telecomunicações, University of Beira Interior, Portugal); Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal); Paulo Pereira (INESC-ID & IST-TU Lisbon, Portugal); Jaime Lloret (Universidad Politècnica de Valencia, Spain)  
pp. 436-441

**WAVE System Architecture Design in Urban Area**  
Tsutomu Tsuboi (Hitachi Ltd., Japan)  
pp. 442-446

**Data replication in distributed database systems in VANET**  
Anton Lieskovsky (Univerzity of Žilina, Slovakia); Ján Janech (University of Žilina, Slovakia); Tomas Baca (University of Žilina, Slovakia)  
pp. 447-452

### S18: PHY II

**MIMO Systems for Turbo Coded Cooperation over Orthogonal and Non-Orthogonal Channels**  
Haifa Farès (ENST Bretagne, France); Sidi Ould Mohamed (SUPCOM, Tunisia); Charlotte Langlais (Télécom Bretagne, France); Alexandre Graell i Amat (Chalmers University of Technology, Sweden); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France)  
pp. 453-457

**Blind Detection of the Number of Transmitting Antennas for Spatially-Correlated MIMO Systems**  
Kais Hassan (University Lille Nord de France, France); Crépin Nsiala (Institut National de REcherche sur le Transport et leur Sécurité, France); Roland Gautier (University of Brest, France); Emanuel Radoi (University of Brest & Lab-STICC UMR CNRS 3192, France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France); Iyad Dayoub (University Lille Nord de France, France)  
pp. 458-462

**Iterative Joint Channel Estimation and Data Detection for MIMO-CDMA Systems over Correlated Fading Channels**  
Ayman Assra (IFSTTAR, Finland); Walaa Hamouda (Concordia University, Canada); Iyad Dayoub (University Lille Nord de France, France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France)  
pp. 463-467
## S24: Miscellaneous II

**Multipath Rate Allocation Algorithm for Overlay Networks with Feedback From Overlay Nodes**
Svetlana Boudko (Norsk Regnesentral, Norway); Wolfgang Leister (Norsk Regnesentral, Norway); Carsten Griwodz (Simula Research Laboratory, Norway); Pål Halvorsen (Simula Research Laboratory & Department of Informatics, University of Oslo, Norway)
pp. 468-473

**Using Cooperation among Peers and Interest Mixing to Protect Privacy in Targeted Mobile Advertisement**
Ahmed Fawaz (American University of Beirut, Lebanon); Ali Hojaij (American University of Beirut, Lebanon); Hadi Kobeissi (American University of Beirut, Lebanon); Hassan A. Artail (American University of Beirut, Lebanon)
pp. 474-479

## S27: Electric vehicles

**Mastering cooperation: electric vehicle and smart grid**
Mikhail Simonov (ISMB & Politecnico di Milano, Italy)
pp. 480-485

**Selected findings from a German lighthouse project on electric mobility**
Jan Henrik Dornberg (FIR at RWTH Aachen University, Germany); Theo Lutz (FIR e. V. at RWTH Aachen, Germany)
pp. 486-491

**A Charge Algorithm Proposal for Wirelessly Charged Networks**
Andres Gómez (Universidad de Los Andes, Colombia); Yezid E. Donoso (Universidad de los Andes, Colombia)
pp. 492-496

**Tutorial by Jérôme Härrri, Marco Fiore "Vehicular Networking: History, State of the Art and Interdisciplinary Aspects"**

## S20: Road Traffic

**An Evaluation of Travel Time on Urban Road Network**
Tongyu Zhu (Beihang university, P.R. China); Congcong Li (Beihang University, P.R. China); Sanli Ma (Beihang University, P.R. China); Dongdong Wu (Beihang University, P.R. China); Wang (Cennavi Technologies Co. Ltd, P.R. China)
pp. 497-502

**Driving Route Based Visual Traffic Information System**
Lan Li (Hitachi (CN) Research & Development Corporation, P.R. China); Bo Liu (Hitachi (China) Research & Development Corporation, P.R. China); Yoshinori Nakagawa (Hitachi Government & Public Corporation System Engineering, Ltd., Japan)
pp. 503-508

**Research on Experienced Route for Driving Plan Services**
Yuhe Zhang (Hitachi (CN) Research & Development Corporation, P.R. China); Man Li (Hitachi (CN) R&D Corporation, P.R. China); Wenjia Wang (Hitachi (China) R&D Corporation, P.R. China)
A Novel Model to Evaluate Urban Overall Traffic Condition
Weifeng Lv (Beijing University of Aeronautics and Astronautics, P.R. China); Xinxin Jiang (Beihang University, P.R. China); Congcong Li (Beihang University, P.R. China); Tongyu Zhu (Beihang university, P.R. China)
pp. 515-520

Reducing the Probability of Violating Red Light
Iman Abbaszadeh Fallah (Universiti Teknologi Malaysia, Malaysia); Hamed Esmaeeli (Universiti Teknologi Malaysia & UTM, Malaysia)
pp. 521-526

A Transport based Clearing System for Dynamic Carpooling Business Services
Gérald Arnould (Public Research Centre Henri Tudor, Luxemburg); Djamal Khadraoui (CRP Henri Tudor, Luxemburg); Marcelo Armendáriz (University of Vigo, Spain); Juan C. Burguillo (University of Vigo & University of Vigo, Spain); Ana Peleteiro (University of Vigo, Spain)
pp. 527-533

The maritime e-Navigation and the Titanic: are there any links?
Michele Fiorini (Selex-Sistemi Integrati & IET Italy, Italy)
pp. 534-539

A Novel Vehicular SMS System (VSS) Approach for Intelligent Transport System (ITS)
Irshad Sumra (Universiti Technologi Petronas, Malaysia); Halabi Hasbullah (Universiti Teknologi PETRONAS, Malaysia); Jamalul-lail Ab Manan (MIMOS Berhad, Malaysia)
pp. 540-546

A Systemic and Cooperative Approach towards an Integrated Infomobility System at Regional Scale
Dino Giuli (CNIT - University of Firenze, Italy); Federica Paganelli (National Inter-University Consortium for Telecommunications & Research Unit of Firenze, c/o Dept. of Electronics and Telecommunications, Italy); Stefano Cuomo (National Inter-University Consortium for Telecommunications, Italy); Paolo Cianchi (Negentis, Italy)
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A High Performance Baseband Transceiver for In-Vehicle Power Line Communications
Chin-Lin Lo (National Tsing Hua University, Taiwan); Hsi-Pin Ma (National Tsing Hua University, Taiwan)
pp. 554-558

Performance analysis and complexity study of LDPC and Turbo Coding schemes for Inter Vehicle Communications
George C. Kiokes (Institute of Communication and Computer Systems & National Technical University of Athens, Greece); George Economakos (National Technical University of Athens, Greece); Angelos Amditis (Institute of Communication and Computer Systems, Greece); Nikolaos Uzunoglu (National Technical University Athens, Greece)
pp. 559-564
Joint CFO and channel acquisition and tracking based on parametric channel modeling for OFDM systems in the presence of high mobility
Eric Simon (University of Lille, France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France); Martine Liénard (University of Lille, France)
pp. 565-570

Evaluating New Prototyping Framework based on Combining Embedded Sensors Data and ns2 Simulations
Nadeen Salameh (INSA of ROUEN, France)
pp. 571-577

Simulation of automotive cooperative system based on Software Defined Radio (SDR)
Mohamed Kassab (IFSTTAR, LEOST & Univ Lille Nord de France, France); Christophe Gransart (INRETS, France); Martine Wahl (IFSTTAR, LEOST & Univ Lille Nord de France, France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France)
pp. 578-583

An Auction Approach to Group Handover with Mobility Prediction in Heterogeneous Vehicular Networks
Guoxia Zhang (522 W 123RD ST, APT 2E, USA); Fuqiang Liu (Tongji University, P.R. China)
pp. 584-589

Handover in Vehicular Communication Networks
Chi-Sheng Lin (National Central University, Taiwan); Jia-Chin Lin (National Central University, Taiwan)
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Dinner. Conference closing.