IEEE ITS COUNCIL NEWSLETTER
Editor: Prof. Stefano Stramigioli, S.Stramigioli@ieee.org

Vol. 6, No. 2, April 2004

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Information for contributors
Announcements, feature articles, books and meetings reviews, opinions, letters to the editor, professional activities, abstracts of reports, and other material of interest to the ITS community is solicited.
Please submit electronic material for consideration in any of the following formats: LATEX, plain ASCII, PDF, or Word, to the Editor at broggi@ce.unipr.it at least 1 month prior to the newsletter’s distribution:

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THE
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Dear colleagues,

the second issue as editor is finally ready and you will find as usual all information about the Council and more.

I am extremely happy with the incredible success of the last issue. The URL for the newsletter received 11,485 hits between January 1 and April 6, 2004. This is the most requested URL of all of the web pages and reflects more than 50% of the traffic to the web site.

I am not sure if you were aware of the problems related to the OFAC embargo which had annoying consequences for IEEE members from countries like Iran and Cuba. I was very pleased to hear that things are moving in the right direction as explained here. On my opinion this is also thanks to the efforts of Prof. Michel Gevers who invested a lot of efforts and time in pushing toward a resolution of the problem with the driving force that IEEE should still keep on being a great, free, open and worldwide technical society. Some things are still to be resolved, but this is a good beginning. Thanks Michel!

I am trying to cleanup the mailing list of the Newsletter and get rid off addresses which do bounce because either not active anymore or due to spam filtering. Next issue will be announced via a distilled list which I will try to create using the received bounces of this issue mailing, but I will send right after an e-mail to the complete list just to announce the mailing as taken place. If you will receive the second e-mail, but not the first, it means that your address was accidentally removed and I kindly ask you to take 2 minutes to subscribe again to the list.

Said this, I really hope you will enjoy the issue and hopefully the next one will not be from the Intelligent Transportation Systems Council, but from the Intelligent Transportation Systems Society!

Enjoy the issue.

We have received a report from IEEE that the number of hits on the web site to download the previous issue of the Newsletter was 11,485 as of the writing of this article. We are pleased that so many of you are reading it. Congratulations and thanks to our Editor, Stefano Stamigioli, and his predecessor, Alberto Broggi, for all the work they have done to make this Newsletter a success.

We do not have data on the location of those downloading the Newsletter, but I am sure that our readers are located all over the world. Dan Dailey, our past president, remarked that the attendance at the ITS Conference in Oakland in 2001 had attendees from every continent except Antarctica. Our Newsletter...
readership may extend to that continent as well. If anyone is reading this Newsletter in Antarctica, I would appreciate receiving an email from you.

The transition from Council to Society is the activity that continues to require most of my time as president this year. A Council is an entity created by the IEEE Technical Activities Board (TAB) to handle emerging technologies. In our case, the Council on ITS consists of seventeen member societies of IEEE with an interest in ITS. We have been operating as a Council since 2000. Earning the status of a Society implies that we have passed beyond the status of an emerging technology. We hope to obtain approval of Society status at the June meeting of the TAB.

We are trying to get an estimate of the number of members we will have in our new Society. Based on the number of readers of this Newsletter, I think we should have several thousand. I would appreciate your help by participating in a very short survey. Please take few seconds to go to the web site:

http://ce152.el.utwente.nl/itsc/itsc.php

and let us know if you plan to join the IEEE ITS Society after we are approved by the TAB.

As usual, I would like to hear from those of you who would like to volunteer your service to our Council. Please send me an email at c.herget@ieee.org, and I will see that it is directed to the proper officer of the Council.

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**Calendar of Council Events**

*by Fei-Yue Wang*

Next Meetings are scheduled as follows:

**ITS Council Meetings:**

- Executive Committee: June 13, 2004, Parma, Italy
- Administrative Committee: October 3, 2004, Washington, DC, USA

**2004 IEEE Intelligent Transportation Systems Council Conferences:**

- IV04: June 14-17, 2004, Parma, Italy, [http://www.ieeeiv.org](http://www.ieeeiv.org)
Applications of Integrated Driver Assistance

by Bart van Arem, Cornelia van Driel and Thijs Muizelaar

Applications of Integrated Driver Assistance

Contribution from the AIDA research center

Bart van Arem holds a Master’s degree (1986) and PhD degree (1990) in Applied Mathematics, he has been working at the Dutch research institute TNO Inro since 1992, where his current main working area is dynamic traffic management, and he is also part time Professor at the University of Twente where he chairs the AIDA center.

Increasingly R&D activities are undertaken to make cars intelligent. By supporting the driving tasks of a driver, it is expected that traffic can be made more safe, fluent, fast and fuel-efficient. This paper describes the research activities at the research centre Applications of Integrated Driver Assistance at the University of Twente.

A look into the future.

“The Integrated Driving Assistant (IDA) supports a car driver in choosing and maintaining a safe speed, headway and heading. IDA takes care that overtaking, merging and turning take place safely. IDA keeps an eye on traffic signals and warns the driver for obstacles. IDA guides the driver along the fastest, cheapest or most comfortable route and monitors the desired arrival time. IDA informs and supports the driver and takes his or her personal preferences and purposes into account. Car driving is made more relaxed, safer and faster.”

Figure 1: Your Integrated Driving Assistant.

Science fiction? Not at all. The first generation of driver support systems is now in the show rooms: navigation systems that use real-time traffic information, adaptive cruise control and lane departure warning. These systems are the first steps toward an Integrated Driving Assistant.

In order to take next steps, there are research challenges to be met. Especially knowledge is needed on the impacts of driver support systems on drivers in terms of e.g. driving performance and behavioural adaptation, and traffic flows in terms of e.g. traffic safety and traffic throughput. For this purpose the Netherlands organization of Applied Scientific Research TNO and the University of Twente have joined forces in the research centre Applications of Integrated Driver Assistance (AIDA).

Systems and services for the motorist

In the coming years motorists will have at their command a range of Intelligent Transport Systems (ITS). Available to the driver of an intelligent vehicle will be support services and systems, such as:

- Pre-trip: information and advice about time of departure, mode of transport and route
- Navigation: real-time information about journey time and advice about route
- Driving: systems to support or take over driving tasks

Following a period of intensive R&D, the first generation of systems and services is now becoming commer-
cially available. These models have limited functionality and work in 'stand alone' mode. The development of the next generation will draw on experience in practice and benefit from progress in the technical possibilities. It will consist of integrated services and systems, which may well be able to communicate with the roadside and other cars, and will be capable of advanced interaction with the driver, having the ability to take into account driver preferences and motives.

![Diagram](https://via.placeholder.com/150)

**Figure 2: Research themes of AIDA.**

High expectations rest on ITS, with governments and road operators expecting it to lead to a more efficient, safer and cleaner transport system. Users of this system face the prospect of faster, safer and more reliable travel and, moreover, the use of ICT-based systems and services. For industrial suppliers of vehicles and infrastructure ITS will trigger important product innovation and create opportunities for new products and services. It will only be possible to meet these expectations once sufficient insight exists into the issues surrounding application, such as the user perspective, the algorithms required for systems and services, an estimate of effects, the interaction between intelligent vehicles and intelligent infrastructure, and traffic behaviour.

**The AIDA research centre**

There is evidence of a growing need among governments and suppliers of ICT-based systems and services for knowledge about the possibilities and effects involved in systems and services that support the driver. The AIDA research centre is being set up by TNO and the University of Twente to help meet the need to develop knowledge in this area. Its aim is to carry out innovative research and to educate students working in the field of driver support systems, a field in which the integration and coordination of subsystems and services is an issue.

AIDA concentrates on research into integrated systems and services that support the driver, especially focusing on the themes depicted in Figure 2 and the interaction between these themes.

- **User perspective and traffic behaviour.** What are the wishes and requirements of the road-user with respect to support systems and services and to what extent can they be fulfilled by support systems and services? Does the behaviour of drivers change when they make use of driver support systems and how does this impact on traffic safety, acceptance and flow?

- **Design of algorithms for the functional operation of support systems and services, for example to collect information particularly on the underlying road network and at incidents or to predict journey times.**

- **Estimate of effects.** What effects do support systems and services have on travel, both objectively and subjectively as experienced by the driver, and on the traffic performance, in terms of flow, reliability, safety and the environment?

Moreover the interaction between these themes will be addressed, e.g. the interaction between intelligent vehicles and intelligent infrastructure. What added value is created by interaction being possible between intelligent vehicles and intelligent infrastructure? What new concepts can be created for vehicle guidance and traffic management based on the exchange of information and the gearing of vehicles' actions to one another and with the roadside? How can the interaction between driver and system be optimized with respect to acceptance and performance?

**AIDA research program**

The AIDA research program focuses on typically applied scientific issues that need a fundamental approach. In 2003 AIDA has started research on:

- **User needs and impacts on driver and traffic flow of integrated driver assistance**

- **Modelling integrated traffic and travel information in non-recurrent traffic conditions.**

These research projects are described next, after which we describe our future plans.

**User needs and impacts on driver and traffic flow of integrated driver assistance**

In the coming years motorists will have at their disposal a range of intelligent systems and services that assist them in different aspects of the driving task.
This raises the question how these systems and services could or should be integrated. At this moment little is known on this topic. Therefore, this research project aims at contributing to an improved insight into integrated driver assistance. Starting point is the perspective of the driver, in contrast to the often-used technology driven approach. The main research questions are:

- What are the needs of the driver with respect to integrated driver assistance?
- What are the impacts of integrated driver assistance on the driver, in terms of acceptance and driving behaviour?
- What are the impacts of integrated driver assistance on the traffic flow, in terms of traffic safety and efficiency?

An outline of the project is presented in Figure 3.

The issue of integration will be investigated starting with the perspective of the end user, i.e. the driver. By means of a web-based survey drivers are asked to what extent they have a need for certain assistance during car driving. Emphasis will be placed on the perception of driving (which tasks and situations are easy or difficult) and on preferred combinations of driver support functions. What is the ideal driver support system in the driver’s view? An integrated driver support system will be put together based on the preferred driver support functions. The needs of the driver determine implications for possible integration of these functions.

Next, impacts of the integrated driver support system on the driver will be investigated, using the advanced driving simulator of TNO. Effects on the system on acceptance and driving behaviour are highlighted. Special attention will be paid to the functional integration of driver support functions. To what extent should the system imitate or optimize "normal" driving behaviour according to the driver? For example, an integrated system with longitudinal and lateral control could for example maintain a relative high speed and short time headway on rather narrow roads.

The impacts on the individual driver are placed in perspective by assessing the impacts of the integrated system on the traffic flow. Effects on traffic safety and efficiency are estimated by means of traffic simulation. Presumably the microscopic simulation model MIXIC, developed by TNO, will be used.

The results of this project reflect concepts of integrated driver assistance. From these concepts it will be clear which driver support functions could be integrated, based on: (a) user needs, (b) impacts on the driver: acceptance and driving behaviour, and (c) impacts on the traffic flow: safety and efficiency. It will be clear as well which factors may influence this, e.g. factors related to the driver, driver assistance, and driving environment. Finally, it will be clear which aspects of integration will be of importance, e.g. issues surrounding the functional operation.

Figure 3: Outline of the project on the assessment of integrated driver assistance.

Modelling integrated traffic and travel information services.

Traffic and Travel Information Service

Pre-trip: information and advice about departure-time, transport mode and route

En-route: (real-time) information about travel time and advice about route

This research focuses on the en-route information services for car users. This subject has been of interest for many researchers in the past 15 years. Many models were developed that mainly focus on providing generic traffic information generated by a traffic manager with the aim of improving traffic efficiency.
The requirements and impacts on traffic have typically been assessed for commuter traffic. This research differs from that by selecting other traffic situations (such as incidents, uncertainties, large happenings) and by providing integrated traffic and travel information, tailored to the user’s needs.

In this research the context of traffic and travel information as in Figure 4 is considered. The main steps in the research are created from Figure 4.

In this case the road user wishes to travel from A to B with a certain motive, etc. During a trip the user can ask for new or more information about the traffic conditions or available parking places. The user can be given certain needs for this information, concerning the type, format and detail amongst other needs. The information will be presented to him, according to his needs. The user will respond to the new information either by changing his route or destination or not changing at all. This response can be measured on the level of the traffic and transport system, which will cause an update of the traffic and travel information.

The first step in the research is the investigation of user needs and the user response. How will a user response to certain types of information, depending on, for example his travel motive? And what kind of information does the user want? This will lead to a model of the behaviour of users concerning route choice and information. This model will be tested and calibrated in real-life situations, possibly by using a route-choice simulator. Finally the model will be built into a traffic simulation model to assess the impacts of personalized integrated traffic and travel information on the traffic flows in real-life situations. How will a diverse population of drivers on a road network respond to the available information and what are the differences that can be found on the traffic flow?

The results of the project are first of all an overview of the possible effects of traffic and travel information on the traffic flow in non-recurrent situations. These effects could be used for a cost-benefit analysis for service providers or traffic managers. As a second result a comprehensive model of driver route choice will be available, which can also be used in other simulation studies or extended with the incorporation of departure-time choice.

**Future Plans**

Currently, we have a number of projects that are under preparation. In a project on haptic experimental facilities, we will address the suitability of haptics for the design of systems that support a driver in complex decisions involving anticipation. We intend to use the design for a lane change assistant, as a typical case. Further we are preparing research activities as part of the recently approved TRANSUMO program. The TRANSUMO program is aimed at developing and showing transitions to sustainable mobility. AIDA will participate, expecting to work on themes such as driver modeling with driver support systems and the interaction between road-based intelligence and vehicle-based intelligence. Finally AIDA is planning to conduct a comprehensive project that will study the potential of an Adaptive Cruise Control that is capable of exchanging information with systems in other cars and along the road (see Figure 5). This project will address issues from the point of view of driver-system interactions, traffic flows and control engineering.

**Utilization of the research results**

Increasingly, research-funding organizations require that research has a clear utilization perspective. In AIDA this is done in two ways. First, we have established an international user group of public authorities, industry and stake holder organizations. The user group has the task of safeguarding the relevance of the research themes and progress. Also the user group members are increasingly involved at a project basis. Second, the utilization is safeguarded by the intensive cooperation and exchange of researchers with the Netherlands organization of Applied Scientific Research TNO (with TNO Inro on traffic and transport issues, with TNO Human Factors and with TNO Automotive).

**Further information**

The research centre AIDA addresses the application of integrated driver support systems and services. If you are interested in the research of AIDA, feel free to contact us or visit our website.
Message from the VP for Conferences

by Paul Kostek

We are fast approaching the IV 04 to be held in Parma, Italy June 14-17. Through the efforts of Chair Alberto Broggi and his committee an exciting program has been put together for this year’s IV. Besides the excellent technical papers there will also be demos and joint sessions with the ATA. You can also learn about the results from the recent DARPA sponsored Grand Challenge held in the US for autonomous navigation.

Planning is also underway for IV 05 to be held in Las Vegas, Nevada, USA. And dates have been set for ITSC05 to be held in Vienna, Austria. The Conference will be held September 13-17. Watch the newsletter for details and a Call for Papers.

For your long term planning, ITSC 2006 will be held in Toronto, Ontario, Canada and ITSC 07 in Seattle, Washington, USA.

IV2004 in Parma

by Christoph Stiller

The Intelligent Vehicles Symposia (IV’04) is an annual forum sponsored by the IEEE Intelligent Transportation Systems (ITS) Council. It gathers researchers from industry and universities to discuss research and applications for Intelligent Vehicles and Intelligent Infrastructures. Three days of the symposium will be allocated for technical presentations and one day will be dedicated to live vehicle demonstrations. The technical presentations are characterized by a single session format so that all attendees remain in a single room for multilateral communications in an informal atmosphere. Papers dealing with all aspects of vehicle-related intelligent systems and cooperation between vehicles and infrastructures will be presented. A special session will be organized on the DARPA Grand Challenge.

The Intelligent Vehicle Symposia will take place in Parma at the University Campus (June 14-17, 2004) in conjunction with the 12th International Symposia ATA EL 2004 ”E-Safety: the challenge of the future. Scenario - Technologies - Applications” (June 16-18, 2004) organized by ATA - Associazione Tecnica dell’Automobile, Italy. The two events will partially overlap with joint sessions: one day for presentation of scenario and results of International Projects (June 16, 2004); one day for live prototype demonstrations (June 17, 2004). The purpose of the co-location of the two symposia is to offer the attendees the opportunity to meet a larger number of specialists and invited speakers who will present and discuss alternative scenarios, technological trends, scientific and applicatory aspects of the technologies for intelligent vehicles. A joint registration to the two events will be possible and will allow to attend both events at a reduced price.

Program Topics Include the Following Technical Categories:
PARMA is a city of aristocratic cultural tradition, rich in precious works of art and memories of its past as a capital city, celebrated for its greatest sons and the artists who worked there - from Benedetto Antelami to Salimbene, from Correggio to Parmigianino, from Bodoni to Verdi and Toscanini - the poets, writers and directors inspired by it, above all Stendhal, who recreated the city in his story about the "Chartreuse".

Parma is also worldwide renowned for its culinary tradition, which can be easily tasted in many "osterie" and restaurants in the city centre and in the surrounding countryside. Parma is located in the north of Italy, in the Po Valley, in a strategic position, halfway between Milan and Bologna and close to many important Italian cities (Florence, Venice, Verona, Genoa, Turin

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Please refer to the following websites for the most up-to-date information: IEEE IV’04
IEEE IV’04 and ATA-EL '04 Demonstration Day

by Gianfranco Burzio

The demonstration day will take place at the Varano de Mellegari test track, on June 17th 2004. The race track, see photos, is close, 32 km, to the city of Parma, where the two symposiums will take place. Sixteen different demos are currently planned for this Demonstration Day. Some of them are relative to relevant European Projects:

- CYBERCARS. Automatic guided vehicles;
- GALLANT. European GNSS (Galileo) application to driver support
- AIDER Advanced Emergency Call
- COMUNICAR - Advanced HMI to reduce driver distraction

Vehicle manufacturers will show some results of their most recent research activities:

- Driver cooperative Lane Keeping (FIAT Research Centre)
- Automatic Parking (FIAT Research Centre)
- Pedestrian Detection (Daimler Chrysler)
- Safety Car for bad weather condition (FIAT Research Centre)

Other very interesting demonstrations are from relevant Industries and Universities:

- Lateral Control (Inria - France)
- Driver Monitoring (Deepvision - Canada)
- Vision Enhancement (CUST - France)
- Speech Recognition on Vehicle (IRST - Italy)
- Drive-by-Wire Control Unit (Turin Polytechnic - Italy)
- Vehicle-to-vehicle-to-infrastructure Communication (Hitachi - France)
- Rail Vehicle Infrastructure (Un. Bologna - Italy)
People attending the Demonstration day will have the possibility to get a direct experience, through Driving Simulators, of the activities of the Safe Drive International School directed by Andrea De Adamich.

Demonstrations

Cybercars (INRIA)

Safety Car (FIAT Research Centre)

Safe Driving Courses (Safe Driving International School)
ITSC2004 in Washigton DC
by Paul Kostek

Planning is continuing for the ITSC04 to be held in Washington, DC October 3-6. Besides the technical sessions, there will be short courses, tours and exhibits of several of the participants in the DARPA Grand Challenge. Confirmed as keynote speakers are Jim Hall, former head of the National Transportation Safety Board (NTSB) and Dr. Joe Sussman of MIT will be the banquet speaker. Check out the Conference Website (www.itsc2004.org) for information on the conference program and short courses.

ITSC2005 in Vienna
by Reinhard Pfiegl

ITSC '05 will take place from 13th to 16th of September 2005 in Vienna, Austria and will continue the tradition of leading advances in basic research on technology related to intelligent transport systems, ITS applications and the interface between ITS technology and the society.

"ITS and the society” would like to compile and present the advantages of applications of intelligent transportation systems for the society. Finally all (the society) want to benefit from innovative developments, strategies, technologies etc. in the interdisciplinary range of the innovative transport systems, in order to use and to increase the efficiency of resources (above all time and infrastructure).

We have determined that ITSC 05 will be held at the Congress Centre Messe Vienna, which opened in mid 2003 and offers both modern architectural design as well as professional support for our event and ensures a great surrounding for the development of innovative intelligent transportation systems for the whole society.

So far we have received overwhelming response from the Austrian and European Research Society to support ITSC 05 and have also set up close relations with the related industry and we think we are on a good way to prepare a successful conference. Up to now several institutions from Austria and Germany have placed a request to organise Special Sessions (e.g. video image processing, Galileo application in rail etc.)

Concerning the International Program Committee we have an extensive list of reviewers and hope that we get sufficient confirmation for support.

Actually we are on the way to prepare final promotion material: flyer, webpage, information material for industrial financial support. ITSC 05 will be present at the ITS Europe Conference in Budapest (24.-26.05.2004) and will distribute conference information.

I invite everybody to participate in this state of the art conference in the heart of Europe. Further information can be found at the conference homepage www.itsc2005.at.
CFP for the 
IEEE Transactions on Intelligent Transportations Systems 

by Alberto Broggi

Scope

Improved planning, design, management, and the control of future transportation systems requires conducting both basic and applied research to expand the knowledge base on transportation. This IEEE Transactions focuses on the design, analysis, and control of information technology as it is applied to transportation systems. The journal is published four times per year.

The intent of the IEEE Transactions on ITS is to serve as a forum for the technological aspects of information technology to transportation, thus providing researchers with an outlet for timely publication.

Topics

- Communications (intervehicle and vehicle-to-roadside)
- Computers (hardware, software)
- Control (adaptive, fuzzy, cooperative, neuro)
- Decision Systems (expert systems, intelligent agents)
- Systems (engineering, architecture, evaluation)
- Information Systems (databases, data fusion, security)
- Man-Machine Interfaces (displays, artificial speech)
- Imaging & Real-Time Image Analysis
- Sensors (infrastructure and vehicle-based)
- Simulation (continuous, discrete, real-time)
- Signal Processing
- Standards
- Reliability & Quality Assurance
- Technology Forecasting & Transfer

How to Publish

Authors may submit Regular Papers, Technical Correspondences and Reviews. The IEEE Trans on ITS is accepting electronic submissions via the IEEE Manuscript Central web site at: http://its-ieee.manuscriptcentral.com. Accepted papers will be published both electronically and in the print version of the Transactions.

IEEE ITS Council web site

The official ITSC web site (www.ieee.org/itsc) includes information for authors, forms for accepted papers, list of associate editors, abstracts from previous issues, and is updated on a regular basis.

Editor-in-Chief

For further publication guidelines, please contact the Editor-in-Chief: Prof. Alberto Broggi, Dip. di Ingegneria dell’Informazione, Università di Parma, Parco Area delle Scienze 181/a, I-43100 PARMA, Italy Email: broggi @ ce.unipr.it - Phone: +39 0521 905707 (GMT+1)
Three months have passed since I began my new activity as Editor-in-Chief of our IEEE Transactions on Intelligent Transportation Systems. It is surely a very short period; statistics over this short time span would be incorrect, but I would like to draw a picture of the current status of our journal with some numbers anyway.

In these first three months of 2004 we received 46 papers, which means roughly one every other day. Since the Manuscript Central Website became operational (on 31 March 2003, namely one year ago), we have received a total of 122 papers.

The journal is published 4 times a year; each issue consists of about 6-8 papers; this gives a total of about 30 papers published per year, against the more than 120 submissions. Following these numbers, we have a rejection rate of about 75%.

As of March 1, 2004, all authors of papers that were submitted in hardcopy have been contacted and asked to resubmit their papers via the Manuscript Central web site to get a much quicker review process and to avoid delays. From that date onwards, no hardcopy manuscript will be managed any more: only electronic submissions will be considered.

During the first 3 months of 2004, 34 final decisions were taken (in the same period 46 papers were submitted): 13 papers were ranked as non publishable, 10 required some minor revisions, while 11 were finally accepted for publication.

Other interesting numbers relative to the activities carried on in the first 3 months of 2004 are:
- time to invite reviewers: 10 days (averaged on 43 papers)
- time from submission to decision: 43 days (averaged on 3 papers)

The attached chart shows in blue the number of papers submitted by month (starting on April 1, 2003) and -in red- the numbers of papers still without a decision. Clearly the papers submitted in the last months are still out under review; it will be my principal mission to clean the backlog and speed up the complete process by the end of 2004. I’m sure the new Editorial Board will help me in this task.

IEEE Trans. on Intelligent Transportation Systems - Index

by Simona Berté

Vol.5, No.2, June 2004

- Visual sign information extraction and identification by deformable models for intelligent vehicles, by Arturo de la Escalera, Jose Maria Armingol, Jose Manuel Pastor, Francisco Jose Rodriguez

- VIRTUOUS: VIsion-based Road Transportation for Unmanned Operation on Urban-like Scenarios, by Miguel ngel Sotelo Vzquez, Luis Magdalena Layos, Francisco Javier Rodriguez Sánchez
Simultaneous Registration and Fusion of Multiple Dissimilar Sensors for Cooperative Driving, by Winston Li, Henry Leung

Modeling of Traffic Flow of Automated Vehicles, by Kun Li and Petros Ioannou

In-Vehicle WLAN Radio Frequency Communication Characterization, by Marc Heddebaut, Virginie Deniau, Karim Adouane

Knowledge Based Gear Position Decision, by Qin Guihe, Ge Anlin, Lee Ju-Jang

CFP: Call for Exhibitions at ITSC2004

by Emily Sopensky

ITSC 2004 Exhibitors Information

The IEEE Intelligent Transportation Systems Council Conference (ITSC 2004) will be held October 3-6, 2004 at the Loews L’Enfant Plaza Hotel in Washington, DC. This Conference attracts an international audience of researchers and engineers from academia, industry and government. This is your opportunity to reach the leaders in developing the ITS technologies and standards of the future.

The conference in 2004 marks the return to North America for first time since 2001. Its location in Washington, DC — within blocks of the Department of Transportation, (DoT) National Transportation Safety Board (NTSB) and U.S. Congress — should increase the attendance. Attendance is typically 350-400.

Space is limited to 20 exhibitors.

Cost is $1500 per booth. This includes:
- 10x10 (table, chairs and curtain)
- Exhibitor passes to sessions

Located just off the Mall, the Loews is within blocks of the DoT and NTSB.

To reserve space, contact Steve Watkins at: steve.e.watkins@ieee.org

www.ieee.org/itsc
Advances in Intelligent Transportation Systems

Given the advances in information technology applied to ITS, we have added many new program topics that address the important IT components in ITS. We also continue with the traditional IEEE ITSC Conference program tracks and the numerous advances in those associated areas.

PROGRAM TOPICS

Information Technology for ITS
- Computers (hardware, software, networks, wireless)
- Human-Computer-Interface (displays, artificial speech)
- Information Systems (databases, data archiving, data management, quality assurance)
- Security (hardware, software, communications, risk analysis, information assurance)
- Geographic Information Systems (real-time traffic, planning)
- Software Engineering (processes, metrics)
- ITS Systems Integration
- Wireless/Location-Based Services Applications

Systems Analysis and Modeling for ITS
- Intelligent Data Analysis (statistical modeling, data mining, forecasting, data fusion)
- Simulation Models (continuous, discrete, real-time)
- Optimization Modeling (routing, route guidance)
- Decision Systems (expert systems, intelligent agents)
- Traffic Theory for ITS (capacity analysis, safety)
- Economic Analysis Models (cost/benefit, life-cycle, performance evaluation)
- Control Theory (traffic networks, vehicular)

ITS Technology
- Communications
- Vehicle Control
- Air Traffic Control
- Port and Terminal Automation
- Navigation and Guidance Systems
- Reliability and Quality Assurance
- Signal Processing
- Imaging and Image Analysis
- Sensors (infrastructure and vehicle based)
- Standards for ITS Technology
- Transit Systems
- Automated Incident Detection

Of Special Interest:

- All papers submitted will be considered for a special issue(s) of the IEEE Transactions on ITS.
- Proposals for Short Courses are invited and should be forwarded to Hamed Benouar: benouar@ut.math.berkeley. Short courses will provide CEU credits.
- Proposals for Special Sessions are invited and should be forwarded to Azim Eskandarian: eska@gwu.edu
- For information on the IEEE ITS Council and conference updates see: www.ieee.org/itsc

Paper Submission

Conference questions should be addressed to the Conference Chair, Paul Kostek: p.kostek@ieee.org
- Complete manuscripts in PDF format must be electronically submitted for review no later than March 1, 2004 at the following address: www.papercept.net/its/conferences/scripts/start.pl
- Submitted manuscripts must be no longer than six (6) pages in IEEE two-column format, including figure and references. Manuscripts exceeding this length limit may be rejected without review. A LaTex style file and a Microsoft Word template are available from the IEEE web site, www.ieee.org/organizations/authors.html
- However, submission MUST be in PDF format. Also, authors must submit a completed IEEE copyright form with the paper submission: www.ieee.org/IEEECForm121302.htm

In addition to the manuscript, a cover page should be sent that includes:
- 1. the title of the paper
- 2. the name(s) of the author(s)
- 3. the technical categories
- 4. the name, mailing address, telephone and fax number, and email address of the contact author.
- 5. 3-5 keywords.

Notification of acceptance is scheduled for no later than June 1, 2004.

THE 7TH INTERNATIONAL IEEE Conference on Intelligent Transportation Systems

Washington, D.C., October 3-6, 2004
Loews L’Enfant Plaza Hotel

(www.ieee.org/itsc)

THE 7TH INTERNATIONAL
IEEE Conference on Intelligent Transportation Systems
Washington, D.C., October 3-6, 2004
Loews L’Enfant Plaza Hotel
(www.ieee.org/itsc)
CFP: Call for Paper for ITSC2005

by Lydia Novoszel

8th International IEEE Conference on Intelligent Transportation Systems
“ITS and the Society”
13.-16. September 2005, Vienna, Austria
CongressCentre MesseWienNeu

IEEE ITSC ‘05 will continue the tradition of leading advances in basic research on technology related to intelligent transport systems, ITS applications and the interface between ITS technology and the society.

ITS Technology
- Communication
- Computation
- Imaging and Image Analysis
- Human-Computer Interface
- Multi-Sensor Fusion
- Sensors
- Signal Processing
- Novel Technology

ITS and Information Technology
- Human Computer Interface
- Information Systems
- Geographic Information Systems
- Software Engineering
- System Integration
- Wireless Applications
- Data Mining and Analysis
- Location-Based Services
- Traffic & Traveller Information Services

ITS and the Society
- Technology Forecast
- Technology Transfer
- Standards
- Public Safety & User Acceptance
- Quality Assurance in Public Transport
- International Cooperation
- Financial Innovations
- Socio-Economic Issues
- ITS for Disabled
- Information Services and Ability Behaviour
- International Cooperation in ITS Usage

ITS Systems, Modelling & Analysis
- Statistical Modelling
- Optimization Modelling
- Decision Systems
- Economic Models
- Control Theoretic Models
- Traffic Theory and Models
- Data Acquisition
- Capacity Analysis
- Simulation Modelling
- Reliability and Quality Assurance

ITS and Galileo
- Service Quality
- Co-Existence with other Systems

Infrastructure Development
- Navigation and Guidance
- Air Traffic Control
- Port, Terminal Automation
- Intermodal Applications
- Intelligent Infrastructure
- Interaction vehicle-vehicle, Infrastructure - vehicle
- Ground Traffic Control
- Vehicle Control
- Transit Systems
- Transport Security
- Driver Assistance Systems
- Intelligent Highway Systems
- Reliability and Certification
- Automated Incident Detection
- Rural & Public Transport Systems
- ITS Architecture

Paper submission:
Complete manuscripts in PDF format must be electronically submitted for review not later than January 2005 at its.papercept.net in IEEE standard-format. For further information please consult the paper submission webpage.

The conference will be extended by a parallel project-oriented exhibition where results of worldwide research & development projects will be presented. This will be an excellent opportunity to exchange state of the art knowledge within the research & industry community.

If you already have a tutorial proposal please contact the conference administration at office@itsc2005.org

Should you have specific questions on the submission of papers, the participation on the conference, or the exhibition please send your message to office@itsc2005.at

Please refer to the following website for the most up-to-date information: www.itsc2005.at
Piscataway NJ, July 3 2003 – IEEE (The Institute of Electrical and Electronics Engineers) will add another technical interest area in 2004 with its new Product Safety Engineering Society. The new society targets design professionals and design engineers interested in electrical product safety. The IEEE has 37 other societies ranging from aerospace, computers and telecommunications to biomedicine, electric power and consumer electronics. The new society will accept members for the 2004 membership year.

The IEEE Product Safety Engineering Society will address safety engineering for equipment and devices used in the scientific, engineering, industrial, commercial and residential arenas. It will allow engineers and other technical professionals an opportunity to discuss and disseminate technical information, to enhance professional skills, and to provide outreach to engineers, students and others with an interest in the field.

According to Daniece Carpenter, co-chair of the IEEE Technical Activities Board Committee that helped form this group, the new society fills a void in the electrical and electronics engineering fields. While product safety has been addressed in various committees over the years, there has not been a widely accepted professional organization solely devoted to product safety engineering as a discipline. Now IEEE has established a home for this important technical field.

The IEEE Product Safety Engineering Society plans to work closely with various IEEE Societies and Councils that also include product safety engineering as a technical specialty. The new society already has local groups in several cities that will be formed into chapters, and others will be started as demand dictates.

The IEEE is the world’s largest technical professional society with more than 380,000 members in approximately 150 countries. The IEEE publishes more than 120 journals, transactions and magazines comprising 30 percent of the world’s literature in the electrical and electronics engineering and computer science fields, and has developed more than 900 active industry standards. The organization also sponsors or cosponsors more than 300 international technical conferences each year. Additional information is available at www.ieee.org.
This department is dedicated to catching a glimpse on the WWW trying to discover interesting ITS related Web resources. Reviewed sites range from research programs and projects, to software packages, databases, associations, non-profit companies, and more.
Every suggestion or contribution is welcome and should be addressed to fascal@ce.unipr.it.

- **ITS Czech Republic** is a non-profit non-governmental private association which promotes the use of Intelligent Transport Systems within the Czech Republic and is open to all organizations, domestic and foreign, involved in any capacity in Intelligent Transport Systems. ITS CZ was funded to provide a forum for the exchange of ideas and experiences among ITS professionals and organizations interested in shaping the opinions and preparing for the events, which affect ITS industries.
  Link to ITS Czech Republic site:  
  http://www.its-cz.cz

- The **European ITS Framework Architecture** was created in order to provide guidelines and a common basis for the planning, development and implementation of Intelligent Transport Systems throughout Europe, and to help ensure that ITS projects are well-conceived, interoperable and compatible at national and European level. The task of promoting the Framework Architecture and providing practical assistance to users is carried out by the FRAME projects, funded by the European Commission. Support is available in a number of forms: through seminars, training workshops, international meetings and events, and through brochures, reports and technical documents.
  Link to FRAME site:  
  http://www.frame-online.net

- The **Centre for Transport Strategy at the University of Queensland** was established as a collaborative Centre between State transport agencies and the University to undertake research and provide professional development and consulting services. The key activities of the Centre are to contribute to integrated and sustainable transport by undertaking research, providing professional development, collating transport related data, providing consulting services and developing policies in transport strategy.
  Link to Centre for Transport Strategy site:  
The International Road Traffic and Accident Database (IRTAD) International comparisons of road safety are becoming more and more important. To assess national developments in the area of traffic safety more accurately, it is necessary to view them in an international context. IRTAD offers the framework required for differentiating international evaluations of accident data: up-to-date information accessible worldwide, detailed and comprehensive data, international comparability, consistent time series, computer-assisted updating and processing of data.

Link to IRTAD site:
http://www.bast.de/htdocs/fachthemen/irtad

The AAA Foundation for Traffic Safety is a not-for-profit, publicly-supported charitable educational and research organization, dedicated to saving lives and reducing injuries on the roads. The Foundation funds research projects designed to discover the causes of traffic crashes, prevent them, and minimize injuries when they do occur, and develops educational materials for drivers, pedestrians, bicyclists and other road users.

Link to AAA Foundation site:
http://www.aaafoundation.org

Industry prospective: Robosoft

by François Hirigoyen

The French company Robosoft develops intelligent transport systems since 1985. Introducing its latest robotics technologies into people transportation systems, it has developed a full range of automated people movers that have been tested and approved by European authorities. These new modes of transportation are appropriate for all types of delimited sites receiving an high density of persons needing to travel relatively short distances (i.e., up to several miles) either inside or outside their perimeter (city centers, pedestrian zones, theme parks, airports). All of these sites are finding advantages in automated transportation solutions. Whatever the solution selected (on-demand taxi, ride or shuttle), they apply a package of technological innovations serving both the end-user and the system-installer:

- A fleet of safe automated vehicles, with capabilities for identifying locations and moving autonomously on private roads.
- Extremely light infrastructural and maintenance needs.
- A fleet management system, capable of optimizing in real time the movement of vehicles as a function of information from the surrounding environment provided to the system (number of clients, time of day, programmed events, etc.)
- Man-machine interfaces designed for the specific site owner and the end-users, for their interaction with the vehicles at the site and for the fleet management system (tactile LCD screens with intuitive graphic interfaces, voice interfaces, dialogues in natural language, etc.)
- Mobile communication systems tailed to the vehicles mobile internet, Wap, I-Mode on GPRS or UMTS

Robosoft automated transportation solutions offer not only currently available technology, flexibility and comfort but also economic advantages for both the system installer and the end-user. These features make these new intelligent transport systems, an attractive package compared with traditional solutions and offer clear advantages for the overall quality of transportation. Automated transportation solutions also offer planners long-term development solutions that bring advantages that are simultaneously economic, environmental and societal. From an economic standpoint, these automated transportation solutions provide great flexibility and a reduction in operating costs for a limited initial and ongoing investment. To learn more, visit www.robosoft.fr/transport-people.html
# Upcoming Conferences, Workshops, or Symposia

by Massimo Bertozzi

This section lists upcoming ITS-related conferences, workshops, or exhibits. Contributions are welcome; please send announcements to itsconfs@ce.unipr.it.

<table>
<thead>
<tr>
<th>Conference / Workshop / Symposium</th>
<th>Location</th>
<th>Date</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ITS America's 14th Annual Meeting and Exposition</strong></td>
<td>San Antonio, TX, USA</td>
<td>April 26–28</td>
<td><a href="http://www.itsa.org/its2004.nsf">http://www.itsa.org/its2004.nsf</a></td>
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<tr>
<td><strong>Traffic Signals-Recent Developments, Transport Telematics</strong></td>
<td>Patras, Greece</td>
<td>May 17–18</td>
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<tr>
<td><strong>5th IFAC/Euron Symp. on Intelligent Autonomous Vehicles</strong></td>
<td>Lisbon, Portugal</td>
<td>July 5–7</td>
<td><a href="http://iav04.isr.ist.utl.pt">http://iav04.isr.ist.utl.pt</a></td>
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<tr>
<td><strong>2nd Intelligent Transportation Society (Singapore) Symposium</strong></td>
<td>Singapore</td>
<td>July 8–9</td>
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<tr>
<td><strong>ITS International Workshop</strong></td>
<td>San Francisco, USA</td>
<td>July 21–23</td>
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<tr>
<td><strong>ITE 2004 Annual Meeting and Exhibit</strong></td>
<td>Lake Buena Vista FL, USA</td>
<td>August 1–4</td>
<td><a href="http://www.ite.org/Conference">http://www.ite.org/Conference</a></td>
</tr>
<tr>
<td><strong>National Rural ITS Conference 2004</strong></td>
<td>Duluth, MI, USA</td>
<td>August 22–24</td>
<td><a href="http://www.itsmn.org/ruralits2004">http://www.itsmn.org/ruralits2004</a></td>
</tr>
<tr>
<td><strong>IASTED Intelligent Systems and Control</strong></td>
<td>Honolulu, USA</td>
<td>August 23–25</td>
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<tr>
<td><strong>IASTED Robotics and Applications</strong></td>
<td>Honolulu, USA</td>
<td>August 23–25</td>
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<tr>
<td><strong>7th Intl. symposium on Advanced Vehicle Control</strong></td>
<td>Arnhem, The Netherlands</td>
<td>August 23–27</td>
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<tr>
<td><strong>Intelligent Infrastructure for the Trans-European Road Network</strong></td>
<td>Vienna, Austria</td>
<td>September 20–22</td>
<td><a href="http://www.i2tern.info">http://www.i2tern.info</a></td>
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<tr>
<td><strong>European Transport Conference</strong></td>
<td>Strasbourg, France</td>
<td>October 4–6</td>
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<tr>
<td><strong>11th ITS World Congress</strong></td>
<td>Nagoya, Japan</td>
<td>October 18–22</td>
<td><a href="http://www.itswc2004.jp">http://www.itswc2004.jp</a></td>
</tr>
<tr>
<td><strong>Smart Demo 2004</strong></td>
<td>Eastern Creek Raceway, Australia</td>
<td>October 28–29</td>
<td><a href="http://www.smartdemo.consec.com.au">http://www.smartdemo.consec.com.au</a></td>
</tr>
</tbody>
</table>
Recognition for Transportation Research C’s work in Engineering from ISI Essential Science Indicators

by Chris Pringle

ISI, the Institute for Scientific Information, is the body responsible for collecting the citation data widely used for evaluating journal quality. ISI has established that Transportation Research Part C - Emerging Technologies had the highest percent increase in total citations for any journal in the entire field of Engineering (July 2004). Currently, the journal’s record in the ISI Essential Science Indicators includes 188 papers cited a total of 525 times to date in Engineering. Click here to read an interview with Editor-in-Chief Dr. Stephen G. Ritchie.

The focus of Transportation Research: Part C is high-quality, scholarly research that addresses development, application and implications, in the field of transportation, of emerging technologies from such fields as engineering, computer science, electronics, control systems and telecommunications, among others. The interest is not in the individual technologies per se, but in the ultimate implications of emerging technologies for the planning, design, operation, control, management, maintenance and rehabilitation of transportation systems, services and components. Also of interest are the impacts of emerging technologies on transportation system performance, in terms of level of service, capacity, safety, reliability, resource consumption and the environment, economics and finance, privacy, standards, liability, and societal and institutional roles and barriers. Submissions in the following areas of transportation are encouraged by Part C: emerging technologies for all modes; intelligent transportation systems; adaptive control and real-time operations; sensors and detection systems; infrastructure applications of emerging technologies. Part C’s aims and scope are complementary to Transportation Research Part A: Policy and Practice, Part B: Methodological, Part D: Transport and Environment, Part E: Logistics and Transportation Review and Part F: Transport Psychology and Behavior. The complete set forms the most cohesive and comprehensive reference of current research in transportation science.

For more information, including manuscript submission and subscription details, and to view the "Top 25" most viewed papers published in Transportation Research Part C - Emerging Technologies in 2003, visit http://www.elsevier.com/locate/trc
A highly innovative internet-based system for fleet driver assessment, training and monitoring, which was researched and developed in the UK, Australia and the USA over the past 5 years, has won a major UK safety award for its significant contribution to road safety.

At the recent Brake Fleet Safety Forum Awards for Excellence 2003, BT, Interactive Driving Systems and Zurich Risk Engineering received the 'Crash Analysis Procedures' award for a highly successful internet-based programme of driver assessment, training and monitoring.

The award judges stated that the project 'demonstrated a genuine commitment to road safety improvement from the three companies involved'.

Ed Dubens, CEO of Interactive Driving Systems said 'the system allows each drivers’ safety performance to be measured against their scores on the assessment as part of BT’s fleet risk management procedures’. For each driver the system makes an assessment of their knowledge, attitude, hazard perception, knowledge and driving history and links this to their actual safety performance.

Fleets can then use this information for a range of purposes including pre-employment pre-screen, interview and induction processes for new staff. For existing staff it can be an annual assessment in their conditions of employment, used for remote sites, a tool for the selection of instructors and assessors, to evaluate training needs and review success of training and as part of the post crash investigation process.

Dave Wallington, BT’s Group Safety Advisor said ‘BT sees driver safety as a major issue and we are very pleased to have won this award with IDS and Zurich as a recognition of our commitment to the road safety of the communities in which we operate vehicles’.

Other uses include the allocation of company cars; operations with high employee turnover or a high use of agency drivers; risk assessments for insurance, underwriting, health and safety due diligence and vehicle hire; and, when pitching for new business or as a third party service to clients.

The judges’ feedback stated that ‘a key factor in the award was that the system has been subjected to a series of evaluation studies by Napier University and is constantly being developed to help make road safety improvements’. In fact there are several similar systems available in the UK, but Virtual Fleet Risk Manager is the only one with research-based evidence to link it to road safety improvements. To date the BT project has involved over 15,000 BT employees with another 30,000 waiting to join the programme.

According to Dubens the Napier studies ‘show a clear link between safety and the assessment score, with high scoring drivers being as much as 4 times less likely to crash than low scoring drivers’. He said ‘this is a clear breakthrough for road safety’, because for the first time it links drivers crash histories with their scores on the assessment’.

Virtual Fleet Risk Manager - for on-line driver assessment, monitoring and indexing, contact:

Andy Cuerden in the UK on 01484-400399, andycuerden@roadrisk.net
Ed Dubens in the USA on +1 (609) 465 4001, eddubens@roadrisk.net
Grant Jensen in Australia on +61 (3) 9940 6553 grant.jensen@zurich.com.au

Fleet Safety Forum Awards for Excellence 2003 - contact:

Juliette Bell, Fleet Safety Forum officer, on 01484 559909 fleetsafetyforum@brake.org.uk
THE FIRST ANNUAL

2004 IEEE Symposium on Product Safety Engineering
Sponsored by IEEE Product Safety Engineering Society (PSES)

August 13-15, 2004
Santa Clara Convention Center
Santa Clara, California

http://www.ieee-pses.org/symposium/

This symposium will address safety engineering for equipment and devices. It will allow engineers, students and others with an interest in electrical product safety to discuss and disseminate technical information and enhance professional skills.

- Talk and discuss problems with vendors displaying the latest regulatory compliance products.
- Attend Technical Sessions, Workshops, Tutorials and demonstrations specifically targeted to the electrical safety engineering professional.
- Registered PSES participants can also attend the TC-8 Workshop hosted by the IEEE Electromagnetic Compatibility Society on Friday August 13 at no additional cost.
- Social event Friday evening, August 13, 2004.

The IEEE PSES Symposium will immediately follow the IEEE Electromagnetic Compatibility Society's (EMC) annual symposium, at the same location.

While product safety has been addressed in various committees over the years, there has never been a professional society or symposium solely devoted to product safety engineering as a discipline, until now. Attend the first annual Product Safety Engineering Symposium and be a part of this important new engineering society.

For more information contact:
Technical Program - Rich Noto, richn@ieee.org
Exhibits & Advertising - Judy Johnson, judithj@shentol.net
Registration Information - Diana Krynski, dkrynski@ieee.org
Check website for co-sponsoring IEEE Societies
IEEE Conference on Robotics, Automation and Mechatronics (RAM)  
1-3 December, 2004  
Singapore

[HTTP://CIS-RAM.NUS.EDU.SG]

OBJECTIVES: The goal of the RAM 2004 is to bring together experts from the field of robotics, automation and mechatronics to discuss on the state-of-the-art and to present new research findings and perspectives of future developments with respect to the conference themes. The RAM 2004 is organized by the IEEE R&A Singapore Chapter, and is held in conjunction with the IEEE Conference on Cybernetics and Intelligent Systems (CIS 2004). The conference welcomes paper submissions from academics, researchers, engineers, and students worldwide in but not limited to the following areas:


About Singapore: Located at one of the most important crossroads of the world, Singapore is truly a place where East and West come together. Here you will find Chinese, Indian, and Malay communities living together, their long established cultures forming a unique backdrop to a clean and modern garden city. English is spoken everywhere and is the common business language of all. Few places on earth promise such a delight for the palate, with gourmet cuisine from over 30 countries.

Invited Sessions: The conference will feature invited sessions on specialized topics of interests. The invited sessions are intended to usher in, in-depth discussions in special areas relevant to the conference theme. The session organizers will coordinate the associated review process. The conference proceedings will include all papers from the invited sessions.

Paper Submission: Papers must be written in English and should describe original work. Papers should be submitted in the form PDF on-line to the conference website: http://www.cis-ram.nus.edu.sg by 30 June 2004. The length of the paper is limited to a maximum of 6 pages (A4 size, single spaced, Times Roman of font size 10, double columns format), including figures, tables and references. Upon acceptance, authors will be required to register and present their papers. Papers will be published in the conference proceedings only if at least one of the authors is officially registered.

Important Dates:

- Full Paper Submission/Special Session Proposal: 30 June 2004
- Notification of Acceptance: 15 August 2004
- Camera Ready Copy and Advanced Registration: 15 September 2004

Organized by
IEEE R&A Singapore Chapter
IEEE SMC Singapore Chapter

Supported by
Centre for Intelligent Machines, NTU
Centre for Intelligent Control, NUS

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The ATA El Symposium is a biennial forum, organised by ATA (the Italian Automotive Engineers Association) in collaboration with its International Permanent Scientific Committee on Automotive Microelectronics. It represents an occasion for discussing on the electronic innovative technologies and products applied to the automotive field and gathers invited speakers, from car manufacturers and automotive suppliers. The Symposium will be mainly devoted to present and discuss the state of the art and the industrial road map of the technologies and the applications, which represent the enabling factors toward the implementation of "E-safety" concept for improving road safety by the use of Intelligent Integrated Road Systems. The 12th edition will be organised in Parma at the University Campus (June 16-18, 2004) and will be co-located with the Intelligent Vehicles Symposium (June 14-17, 2004), which is sponsored by the IEEE Intelligent Transportation Systems (ITS) Council. The two events will partially overlap with joint sessions.

On June 16th morning, there will be only the welcome addresses and the keynote speeches. On June 17th morning, to coincide with the live vehicle demonstrations, there will be 2 technical sessions and a round table. Finally, on June 18th, full day, there will be 4 technical sessions.

The purpose of the co-location of the two symposia is to offer the attendees the opportunity to meet a larger number of specialists and invited speakers who will present and discuss alternative scenarios, technological trends, scientific and applicatory aspects of the technologies for intelligent vehicles. A joint registration to the two events will be possible and will allow to attend both events at a reduced price.

During the two day ATA EL Symposium, three technical sessions will be organised on the following topics:

- System Technologies
- Preventive Safety
- Telematics
- Human Machine Interface

A round table on "E-safety. The challenge of the future: opportunities and criticalities" will take place on June 17, 2004, for expressing panellists’ opinion and point of view on the topic of the panel, and opening the discussion with the delegates.

PARMA is a city of aristocratic cultural tradition, rich in precious works of art and memories of its past as a capital city, celebrated for its greatest sons and the artists who worked there - from Benedetto Antelami to Salimbene, from Correggio to Parmigianino, from Bodoni to Verdi and Toscanini - the poets, writers and directors inspired by it, above all Stendhal, who recreated the city in his story about the “Chartreuse”. Parma is also worldwide renowned for its culinary tradition, which can be easily tasted in many “osterie” and restaurants in the city centre and in the surrounding countryside. Parma is located in the north of Italy, in the Po Valley, in a strategic position, halfway between Milan and Bologna and close to many important Italian cities (Florence, Venice, Verona, Genoa, Turin).

Please refer to the following website for the most up-to-date information:
ATA WWW