

# IEEE VTS NEWS DIGEST

Connecting the Mobile World

Companion to VTS News, Volume 48, Issue 3 August 2001

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## Foreword

James Irvine, Editor

Some thoughts on the subject of participation, or, in the first case, lack of it.

The Spring VTC this year was intended to be held in Israel, but the situation there meant that it had to be moved to Rhodes. This move was carried out prior to the confirmation of paper acceptance, and as a result of the move, a handful of papers which were accepted withdrew. Unfortunately, at the conference itself, 81 people who had registered to attend did not turn up, 69 of whom were students. The latter figure is particularly disappointing given the high level of subsidy the student rate enjoys.

This problem can't be blamed on the conference location since the level of no-shows, about 10 to 15%, is similar to that seen in Boston, which is hardly out of the way. The problem has been more apparent in recent years and it is hard to escape the conclusion that given registration for the conference is a prerequisite for publication in the proceedings, some people have noticed that paying the registration fee and then simply not turning up is an extremely cheap way of getting published quickly.

Left unchecked, such a selfish attitude threatens the whole premise of a technical conference, where dialog occurs and ideas are shared. Authors who want cheap publication have the option of putting papers on a web page, but reneging on a promise to present a paper puts the conference organisers in a similar position, as they advertise papers in the advance programme in good faith.

Of course, in some cases unforeseen circumstances will intervene, but almost all technical papers are co-authored,

and all authors share a responsibility to ensure their obligations are fulfilled. Even if a colleague cannot help out, leaving an empty chair without a phone call or email is hard to justify.

As a new policy, for VTC2001-Fall in Atlantic City, there will be a one-year moratorium at VTC on the acceptance of papers from authors who, having submitted the final version of their paper, fail to present their paper. This is still more lenient than some IEEE societies, which have longer bans, sometimes extending to their Transactions as well.

On the more positive side of participation, this issue again leaves me in the position of having to hold some material for the next issue since there is simply so much going on 44 pages won't cover it. Society membership is rising again as well, which is always a good sign. I am always gratified, and extremely grateful, for the willingness of society members to respond when we send them an email along the lines of we noticed you were doing something interesting on X and wondered if you would be willing to contribute a feature article?. However, with an editor's fear of the empty in-tray, I'd like to invite all members to consider if they could contribute an article. With over a dozen features over the past year, you should have an idea of what we are looking for - nothing too technical, but a good practical overview of an area accessible to members. Transportation articles in particular are solicited.

If you don't want to commit to an article, why not write us a letter. The letters column of IEEE Spectrum has been busy with VT subjects lately. That should get you started.

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# Feature Articles in the August Issue

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## UMTS Radio Interface Roll Out Aspects

Hugo Santos Pinto, TMN Portugal

*Differences between 2G TDMA cellular systems and 3G CDMA systems mean that there are some fundamental changes in the planning process. This article describes the procedure associated with the planning of an UTRAN radio interface. It presents an overview of the radio dimensioning process (for license bid or roll out) and highlights the aspects that differ from GSM/DCS cell planning and the impact of those differences.*

*Possible strategies for the roll out, assumptions, and dimensioning options are discussed. The article draws conclusions about the process and about migration to UMTS cell planning, and illustrates some of the challenges to be faced by planning divisions of the operators in the near future.*

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## VoIPoW Robust Header Compression Field Trial Results

Johan Nielsen, Krister Svanbro, Vicknesan Ayadurai, Ericsson Research  
Yukimaru Matsuya, Isao Sato, Japan Telecom

*The market for mobile telephony as well as data traffic has increased exponentially over the last decade. Data traffic is about to outgrow voice traffic in all public networks while the number of mobile phone users are growing rapidly. Hence the evolution of mobile telephony systems is towards providing its users with the same access to the Internet as the users have when connected to the fixed Internet.*

*Today's second generation mobile systems are based on a circuit-switched environment, but to be able to provide the users with full Internet access the third generation mobile systems will be packet-switched. However, packet-switching technologies, such as IP, introduces some overhead by*

*prepending headers to the data packets to enable correct delivery of the data sent.*

*To enable voice to be transmitted in a spectrum efficient way over the air, a robust header compression algorithm must be used. This article describes the field trial when ROCCO, ROBust Checksum-based header COMpression, for the first time was used as the header compression algorithm for transmitting voice over IP over a wireless air interface. The results presented in this article shows that ROCCO works as well as expected while the existing header compression schemes does not work efficiently when used over bit-error prone cellular radio links.*

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## Ford's Zero Emission P2000 Fuel Cell Vehicle

Kurt D. Osborne, Mark S. Sulek, Ford Motor Company

*The P2000 Fuel Cell Electric Vehicle developed by Ford Motor Company is the first full-performance, full-size passenger fuel cell vehicle in the world. This development process has resulted in a vehicle with performance that matches some of today's vehicles powered by internal combustion engines. The powertrain in Ford's P2000 FCEV lightweight aluminum vehicle consists of an Ecostar electric motor/transaxle and a fuel cell system developed with XCELLSiS-The Fuel Cell Engine Company (formerly dbb Fuel Cell Engines, Inc.). Ballard's Mark 700 series fuel cell stack is a main component in the fuel cell system.*

*To support this new FCEV, Ford has constructed the first North American hydrogen refueling station capable of dispensing gaseous and liquid hydrogen. On-going research*

*and development is progressing to optimize fuel cell vehicle performance and refueling techniques.*



Ford P2000 FCEV.

# Regular Columns in the August Issue

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## Mobile Radio

Javier Gozalez, Senior Editor

*These are the items covered in the Mobile Radio column in the August 2001 VTS News. Please see the printed version for the full article.*

- CTIA Wireless 2001
- Technology and research news
- M-commerce and location-based services
- CeBIT 2001
- Initiatives and Forums
- FCC & US mobile market.
- 3G trials and roll-out
- Mobile satellite communications
- Mobile phones and health
- Wireless industry forecasts and surveys
- Spectrum licenses
- Mobile Data
- Bluetooth news
- Other news

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## Standards

Denis Bodson, Senior Editor

*These are the items covered in the Automotive Electronics column in the August 2001 VTS News. Please see the printed version for the full article.*

- Vehicular Technology Society/ Intelligent Transportation Systems On-Line Standards Subscription Service
  - Vehicular Technology Standards
  - Intelligent Transportation Systems Standards
- Wireless Jungle Still Waiting For Its King
- Waiting Game at First Internet World Wireless Show
- Wireless Networks
- Coffee, a Glazed Donut and The Wireless Net To Go
- Blue Talk: p2p for Handhelds
- More on Bluetooth
- New IEEE Wirelesshuman<sup>2</sup> Project Developing Standards for Fixed Wireless Access in License-Exempt Bands
- The DECT Common Interface
- Mobile Digital Communication for Public Safety, Law Enforcement, and Non-Tactical Military
- First ITU standards approved using the new accelerated approval process
- UWC-136 Update Approved for Inclusion in ITU-R Recommendation
- IEEE 802.16 Working Group
- IEEE Standards Association
- 3G Mobile Standards on Target
- GEO-Mobile Radio interface specifications
- Get IEEE 802 Program Provides Public Access to Networking Standards
- Live TV on Cell Phones

## Automotive Electronics

Bill Fleming, Senior Editor

*These are the items covered in the Automotive Electronics column in the August 2001 VTS News. Please see the printed version for the full article.*

- Alternative to Windshield Wipers
- Vehicle Control-By-Wire
- Small Passenger-Car Hybrid Powerplant
- Full-Size Pickup Truck Hybrid Powerplant
- Future Alternative Vehicle Powerplants
- GM Concentrates on Gasoline Fuel Cell Power
- e-This , e-That , e-Safety , and e-Ticketed
  - e-Safety System.
  - e-Ticketing
  - Future e-Things

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## Transportation Systems

Harvey Glickenstein, Senior Editor

*These are the items covered in the Transportation Systems column in the August 2001 VTS News. Please see the printed version for the full article.*

- METRO, the Metropolitan Transit Authority of Harris County in Houston, has awarded a \$120 million turnkey contract to Siemens Transportation Systems.
- The Port Authority of Allegheny County in Pittsburgh, PA has awarded a \$43.8 million contract to Union Switch & Signal, Inc., a unit of Ansaldo Trasporti.
- Kowloon-Canton Railway Corporation has started a project to grade separate portions of the Tuen Mun light rail line.
- The Austrian Federal Railways has awarded a contract to Bombardier for 40 four-car electrical multiple units (EMU) for suburban traffic and 11 three-car EMUs for regional traffic.
- The Santa Clara County Valley Transportation Authority has broken ground for the first phase of the Vasona Light Rail Project.
- Spanish National Railways has ordered 32 high speed trains for the new 215 mph line that will link Madrid and Barcelona with the French Border.

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## Professional Activities

Frank Lord, Senior Editor

In this article, Frank Lord discusses the situation of H-1B workers in the United States and argues that the perceived shortage of engineers is not what it seems.

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## Report on Joint Rail Conference 2001

This year's Conference, sponsored jointly by the Land Transportation Division of the Vehicular Technology Society of the IEEE and the Rail Transportation Division of the ASME, was held at the Royal York Hotel in Toronto on 17-19 April. The Conference started with 37 enthusiasts enjoying a Technical Tour of the Toronto Transit Commission Harvey Heavy Maintenance shop. The TTC were in the process of overhauling ALRV cars, CLRV cars and mono-motor trucks. Visitors also saw H Series dc traction motors and T-1 ac traction motors being overhauled, as well as M/A sets for H-4 cars. Over 120 people participated in the Conference from all over the world including China, Japan, Taiwan, Italy, Germany, France, and the UK, as well as from Canada and the USA. Twenty-six papers were presented on a variety of electrical and mechanical technical topics from The Development of a Next Gen-

eration ATP System to Development of Locomotive wheels for Improved Adhesion and Life. All papers generated a great deal of audience interest and questions.

Keynote Speakers addressed the attendees at luncheons sponsored by the IEEE and ASME. The IEEE speaker was Robert A. Boutilier, P. Eng, Deputy General Manager of the TTC and the ASME Speaker was Dennis Waller, Vice President Engineering and Mechanical, CN/IC Railroad.

At the IEEE Luncheon, the IEEE VTS LTD Chair, Clive Thornes, PB Transit & Rail Systems, Inc., passed the gavel to the incoming Chair, John Kingham, STV Inc. The other officers elected for 2001-2002 were: Vice Chair, Al Santini, Metro-North; Secretary/Treasurer, Fred Childs, PATH; Papers Chair, Margaret Burnett, LTK Engineering; and Publicity Chair, Denise Burleson, PB Transit & Rail Systems, Inc.



(Center) Happy group at the Toronto Transit Commission's Harvey Heavy Maintenance Shop, (clockwise from bottom left) Luncheon audience listens attentively to IEEE keynote speaker, Robert A. Boutilier, P. Eng, Deputy General Manager, Toronto Transit Commission, Chair Clive Thornes presents a commemorative plaque to keynote speaker Robert A. Boutilier, Outgoing Chair, Clive Thornes transfers gavel to incoming Chair, John Kingham, Keynote Speaker Robert A. Boutilier, Incoming Chair, John Kingham presents outgoing Chair Clive Thornes with commemorative plaque, Local Chair, Stephen Lam of the TTC (bending on left) explaining details of monomotor truck flexible wheels.

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## Report on VTC2001-Spring

The 53<sup>rd</sup> IEEE VTS Vehicular Technology Conference took place in Rhodes, Greece, from 6-9 May 2001. The conference was originally planned for Tel Aviv, Israel, but due to the situation in Israel it was decided to move to Rhodes.

The conference contained a total of 420 oral presentations and 188 posters, and 639 people registered to attend. About 200 of these took the opportunity to attend one of the tutorials which were held on the first day.

The technical programme began on Monday 7<sup>th</sup> May. The conference was opened by the Conference Chair, Reuven Meidan. The opening speaker was Dr Kai Siwiak of Time Domain Corp, who gave an overview of Ultra-Wide

Band communication. This is a new type of radio communication where rather than modulating a carrier signal, short individual pulses or wavelets are transmitted. The advantage of such a system is that multipath channels no longer cause Rayleigh interference since there is no continuing carrier for the multipath signals to interfere with. However, there are important regulatory issues with such a system because of the wide band of the transmitted signal, albeit of low power. An article introducing Ultra-Wide Band transmission is in preparation for *VTS News*.

IEEE President, Joel Snyder attended the conference and addressed the lunch on the first day. He noted how the membership of the IEEE had grown substantially over the

past few years, doubling over the past 25 years from 179,800 members in 1975 to 366,100 last year. A large proportion of the increase in membership has occurred outside the US, so the proportion of members coming from outside the US has risen from 8% in 1963, to 18% in 1985 and 29% in 1995 to 35% last year. If this growth rate continues it is likely that within a few years non-US members will form half of all IEEE members.

The Awards Lunch was held on the Tuesday. A full report of all the awards, along with those which will be presented at VTC2001-Fall in Atlantic City, will appear in the next *VTS News*.

As has been the practice for the past few VTCs, poster presentations were made in the same area as the coffee breaks, giving good opportunities for discussion. The poster and coffee area was also home to some exhibits and the three publishers who were present. Also popular was the fact that all presentation rooms were near to each other, allow easy movement between different halls.

Conference organisation was in the hands of Dan Knassim, who, with Chair Reuven Meidan, have to be

congratulated for their ability to switch the conference venue at such a late stage and yet still ensure everything ran so smoothly. VTC is not a small conference, and they are usually planned several years in advance, so this logistical challenge should not be underestimated. There was even room for innovation. Much of the AV equipment was brought from Israel, and presenters were invited to load their presentations on to the central system in advance for electronic presentation in the technical sessions. This avoided any difficulties and lot time in changing over laptops, as well as the experience seen at VTC2000-Fall in Boston of presenters totally reliant on their laptop (i.e. no backup transparencies) finding that their laptop and the conference's projector won't talk to each other. Moral always take back-up slides!

Overall, the conference presented an interesting and varied technical programme in pleasant surrounding. Even the weather obliged, being warn and sunny on the days before the conference but not too good on the conference days themselves so attending sessions was not too much of a burden!



**Scenes from VTC2001-Spring.** Guest speakers Kai Siwiak and Joel Snyder (center), (clockwise from bottom left) one of the technical sessions; IEEE President Joel Snyder addresses the conference; coffee gives an opportunity to study the posters; the three book sellers Artech House, John Wiley & Sons, and Kluwer, do good business; Conference Chair Reuven Meidan opens the conference; VTC2000-Spring secretary Tad Matsumoto studies one of the exhibits; presenters check their electronic presentation; the evening reception.

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# Book Reviews

Dirk Pesch, Senior Editor

Dear VTS members

I am delighted to introduce the first book review since I have joined VTS News as senior editor for book reviews. I hope that readers will find this section of the News interesting and informative. I would also like to take the opportunity to encourage all VTS News readers to participate in the book review section by suggesting new and interesting books for review or to contribute a review themselves. The review in this issue looks at a book about transportation engineering, *Intelligent Transportation Systems: New principles and architectures*, by Ghosh and Lee, published by CRC Press in 2000. The subject of transportation engineering is at the heart of Vehicular Technology. Transportation is key to mobility, which has impacts on not only vehicular traffic and systems but also on mobile and wireless communications. We would hope to follow on from this review with a review of a book covering the area of mobile communications in order to span the interest of our readers.

The reviewer of this issue is Dr. Hubert Rehborn, who is a senior research scientist with DaimlerChrysler research center in Stuttgart, Germany. Hubert works primarily on modelling and control of vehicular traffic on highways and has published widely in this field. Hubert can be reached as

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Dirk Pesch

*Dirk Pesch was born in Krefeld, Germany in 1966. He received a Dipl. Ing. (MSc) degree from Aachen University of Technology, Germany, in 1993 and a PhD from the University of Strathclyde, Glasgow, Scotland, in 1999, both in Electrical and Electronics Engineering. Dirk was a software systems design engineer with Nokia Mobile Phones from 1993 to 1995, working on wireless protocol specification and standardisation. From 1996 to 1998, he was a research fellow with the Mobile Communications Group at Strathclyde University. Since February 1999 he has been a lecturer in the Department of Electronic Engineering at Cork Institute of Technology, where he is also co-director of the Adaptive Wireless Systems research group. His research interests are in the area of wireless network and protocol design, wireless and mobile network management and performance evaluation.*

## Intelligent Transportation Systems: New principles and architectures

Sumit Ghosh and Tony Lee

Published 2000 by

CRC Press

ISBN 0 849 3 00673

192 pages

Price \$89.95 (US), £59.99 (Europe)

*Reviewed by Hubert Rehborn*

In transportation the necessary flow of information has to be much faster and more efficient than the physical flow of goods or people in the transportation network. The demand for flexibility and the wish for the freedom of choice in transportation is increasing today, while the physical transport networks cannot be expanded anymore as required. Therefore, there is a strong need for efficient co-ordination, control and routing in transportation networks, which should be supported by a software architecture and algorithms. This book presents distributed algorithms and software architectures for computer-based control of intelligent transportation systems (ITS). Two algorithms, a distributed control algorithm, DARYN, and a scheduling and congestion mitigation algorithm RYNSORD for railway networks are introduced by the authors. Software implementations are including on a CD-ROM.

Traditional approaches are presented first (chap. 2), which are based on centralized control algorithms for railway networks with strong limitations regarding large

networks and train numbers. In DARYN, based on an absolute centralized clock, station computers at each node and distributed physical entities of the railway networks (e.g. trains) act as decision makers; this leads to less communication time and less computation. Limitations of DARYN are (i) no assignment of train priorities, (ii) no congestion and bottlenecks in the network.

In the RYNSORD approach (chap. 3), the look-ahead of trains, i.e. reserving N tracks ahead of the current position includes predictions of the train's trip. The concept of soft reservation means the monotonically increasing requests for future tracks with flexibility in time in contrast to the rigid and binary decision of current station nodes. Tracks are characterized by length and owned by one specific station node to guarantee safety. Then the dynamic routing of trains is performed. The approach is presented and evaluated for larger train networks, i.e. the eastern US Railroad Network with 50 stations. The software example (chap. 8) needs some time to become familiar with; an automatic demonstration with more explanation and graphic would have been helpful. A comprehensive stability analysis for RYNSORD (chap. 5) is performed including many test results: strong stability is shown with respect to perturbations of finite duration to the input traffic and track failures.

For intelligent vehicle highway systems (IVHS) a distributed architecture analogously to DARYN and RYNSORD is proposed for dynamic route guidance and intelligent congestion mitigation (chap. 4). The concept of a

distributed scalable traffic management centers architecture (DICAF) is presented. The authors demonstrate the scalability and performance of DICAF based on a congestion measure which is a very simple engineering approximation of the reality. In the future the dynamic routing of a large number of vehicles under changing traffic conditions will require new architectures and concepts.

Two different simulation techniques for ITS designs are introduced with pseudo-code and simulation examples (chap. 6): in Virtual Process Migration (VPM) each stationary entity is assigned to the processors on a one-on-one-basis and the mobile entities of the transportation network are modeled as virtual processes. In the Physical Process Migration (PPM) all entities are allocated on separate processors. Both approaches are compared with simulation results: VPM is more feasible for larger networks while PPM for more realistic modeling.

Transportation research is interdisciplinary and transportation engineers need knowledge in civil and electrical engineering and more and more in computer

science and engineering. The authors have a broad computer science and engineering background; for transportation related issues the authors use more or less rules of thumbs and do not take the real underlying highway traffic processes (which are not determined by waiting queues) into consideration. The book does not contain real-life examples for highway transportation. Key issue here is the demonstration and simulation of an asynchronous and distributed computational approach. The book is valuable for graduate students in transportation engineering as it introduces possible approaches in the application of computer science to transportation problems. Intelligent and efficient software solutions will become more and more necessary in transportation in times of increasing global exchange of goods and people. However, practitioners and policy makers in transportation would miss the connection to real-life examples and the advantages of the proposed concepts in comparison to market competition and other approaches.

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## VTS News

### VTS Bylaw Change

The Vehicular Technology Society Board of Governors, at their meeting on May 8, 2001, approved the following change to their Bylaws:

Bylaw IV, Section 2.0, delete the word elected in the second line.

As a result of the change, the bylaw will read as follows:

The President and Executive Vice President must be members of the Board of Governors at the time they assume office. The balance of the officers, if they are not elected members of the Board shall become appointed members of the Board and have all the privileges and responsibilities of Board members with the exception of the right to vote. This includes entitlement to reimbursement for travel expenses when authorized.

The full VTS constitution and bylaws can be found on the VTS web site, [www.vtsociety.org](http://www.vtsociety.org), by following the Administrative link. They were last published in the VTS News in the February 1997 issue.

### Convergence 2002

Dates for Convergence 2002 have been set at 21-23 October 2002. Due to the continued growth of the conference, it will again be held at the Cobo Center in Detroit.

### VTS Board Member runs for Division IX Director

Every two years society members have an opportunity to vote for a director to represent the society's technical division on the Technical Activities Board and in the IEEE Board of Directors. VTS is in Division IX, the Signals and Applications division, with five other societies: Aerospace & Electronic Systems, Geoscience & Remote Sensing, Oceanic Engineering, Signal Processing, and Ultrasonics, Ferroelectrics & Frequency Control.

The ballot members will receive in September will offer three candidates for Division IX director: George F. McClure, John Vig, and Glen N. Williams. Their principal societies are, respectively, VTS, UFFC, and OE. George McClure will be known to VTS members as a past VTS president and current elected board member.

The last time VTS had a member of its board on the IEEE Board of Directors was in 1989-1990. That was Art Goldsmith, but because of a different arrangement of societies in divisions at that time, he represented the Engineering Management Society rather than VTS. George's current VTS assignments include the conference board, long-range planning committee, publicity and public relations, and assisting in member recruiting and retention, as well as in strengthening chapter relations, a priority recommendation from the 1999 Sections Congress.

George McClure's view is that technical societies should focus their activities to provide the greatest benefit to the members. This includes, besides the purely technical information dissemination role in publications and conferences, promoting education opportunities, newsletter content, and better chapter support. Working with other boards, such as Education Activities, societies can assist in the development of member mid-career education opportunities and strengthen their relations with their chapters.

A constraint to this development is the levy on society assets by IEEE to finance growing administrative costs. At the current rate, some societies



will be totally stripped of assets in five or six years. George believes that problem-solving to reduce the levies will work to allow societies more autonomy in serving their members. Healthy growing societies translate into a healthy IEEE as well, making the resolution of the financial problems the first priority.

George McClure has been nominated to serve on the IEEE Audit Committee, contingent on his election as Division IX director, so will be well-positioned to begin his budget problem-solving.

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## VTC2001-Fall in Atlantic City

Last call for VTC2001-Fall in Atlantic City, which will take place from the 7<sup>th</sup> to the 11<sup>th</sup> of October in the Atlantic City Convention Center. **Advance registration closes on the 30<sup>th</sup> of August.** Advance registration gives a saving of about 15% so is worth taking advantage of.

Approximately 650 papers have been accepted to form part of the technical programme. In addition, the first day of the conference on Sunday 7<sup>th</sup> October will feature 11 tutorials on a wide range of current topics on mobile radio.

In a new development, three workshops will be presented by industry on the last day (Thursday 11<sup>th</sup>). Delegates are welcome to attend free of charge. The workshops are:

- ◆ Maximising capacity in 2G and 3G networks with smart antennas (by Metawave Communications Corp.)
- ◆ Automated Design, Synthesis and Optimisation of High Frequency Circuits and Structures (by Ansoft Corp)
- ◆ Communications System Design using Advanced Integrated EDA Tools (also by Ansoft Corp.)

Abstracts of each of these workshops can be found on the web site, along with other details of the conference and the tutorials can be found on the conference web site, <http://www.fallvtc2001.com>

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## Chapter News & Meetings

*Gaspar Messina, Senior Editor*

### New York Section

At their April 24, 2001 forum, two papers were presented. Mr. Ramdane Benferhat, of the New York City Transit Authority, presented the first paper entitled, R-143 Propulsion and Signs ; and Mr. Edwin Mortlock, of Parsons Transportation Group, presented the second paper entitled, New Technologies Used On NYCT's R-143 Cars . A total of 56 IEEE Members and Guests attended.

### Rail Communications Innovations Forum

The IEEE NY Section Vehicular Technology and Communication Society Chapters will co-sponsor a technology-sharing forum on **Fiber Optic Communication Networks for Rail Vehicle Control**. Panelists will describe and answer questions on the Broadband Communication system being implemented by MTA - New York City Transit. The forum, hosted by Nortel Networks, will take place on October 30, 2001, 6:00 to 8:00 PM at 320 Park Avenue, (50th ST) New York City. Lead panelists are **Morris Schwartz, P.E., PhD.**, and **Edward J. Willner**. Mr. Schwartz is a Senior IEEE Member, and Chief Communications Engineer with MTA-New York City Transit. Mr. Willner is President of E.A. Technologies Inc., Transit Communications Systems.

Engineers, suppliers, installers, and operators are invited to raise questions and share insights. Future IEEE NY Section, VTS Technology Sharing forums are being planned for:

- JFK Airport Transit System, and
- Public Address Systems on Subways and/or Commuter Rail

There is a \$35.00 charge for the forum and refreshments commencing 5:30 PM.

**Advance registration is required for admission.** IEEE Members and non-members may register for the October 30, 2001 forum by sending \$35.00 checks payable to IEEE NY Section to Brad Craig, Louis T. Klauder and Associates, 317 Madison Avenue, Suite 1621, New York, New York 10017. If you are an IEEE member, please provide your membership number and indicate if you are interested in participating in one or more of the planned forums.

Additional information regarding program specifics can be obtained by contacting Mr. David Horn of Fluor Daniel Infrastructure, at (212) 947-7110, or by e-mail at [david.horn@fluor.com](mailto:david.horn@fluor.com).

### Note to VTS Chapters

VTS Chapters world-wide are eligible to receive \$100.00 U.S. at the end of the calendar year for submitting L-31 Meeting Attendance Forms reflecting their Chapter's periodic meeting to VTS Chapter Activities Chairman.

Gaspar Messina,  
9800 Marquette Drive,  
Bethesda, Maryland 20817, U.S.A.

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## Calls for Papers

### VTC2002-Spring in Birmingham, Alabama

5-9 May 2002

The VTC2002-Spring Conference will be held in Birmingham, Alabama from 5-9 May 2002.

The objective of the conference is to provide the opportunity to present technical papers and posters, tutorials and exhibits that represent technical innovation and applications associated with an ever-expanding mobile wireless industry. Although the main focus of the conference is voice and data wireless mobile communications, papers addressing rail and automotive transportation topics are invited. The program committee issues the Call for Papers and invites your participation in the conference.

Please see the VTC2002 web site at [www.ieee.org/vtc02spring](http://www.ieee.org/vtc02spring) for technical subject areas, as well as details of how to submit a paper. A short abstract and an extended abstract of up to two pages, including text and figures, must be submitted at the same time. Important dates are:

September 30, 2001: Deadline for Submission of Abstracts (Short and Extended)

December 15, 2001: Notification of Accepted Papers

February 15, 2002: Deadline for Submission of Full Paper

Birmingham is located in North Central Alabama and early May is the peak of spring time in the Magic City. Attractions include NASA's Marshall Space Flight Center at Redstone Arsenal in nearby Huntsville, AL; the Robert Trent Jones Golf Trail; Alabama Sports Hall of Fame; the McWane Center, an interactive hands-on science adventure that also includes an IMAX Dome Theatre; and Mercedes Benz, manufacturer of the M-Class ATV, who offer tours of the facility.

Further details of registration, the conference program and activities will be forthcoming on the VTC2002 Spring web site.

### VTC2002-Fall in Vancouver, British Columbia, Canada

24-29 September 2002

The VTC-2002 Fall Conference, to be held in Vancouver, Canada, aims to capture and present the current state of the innovative and highly active mobile wireless industry. We seek to present the changing face of wireless technology and a glimpse in the future of this exciting field. Over 400 full technical papers and posters are expected to be presented, along with tutorials, business application/panel sessions and exhibits. Authors are invited to submit extended abstracts describing original research results, innovative applications, and experimental or field trial/test results in the following mentioned fields of wireless communication: Antennas and Propagation; Wireless Access; Transmission Technology; Multimedia, Networks and Systems; Wireless Personal Communication Systems; Mobile Satellite; and Transportation.

Authors MUST submit an extended abstract (up to 2 pages) in MS Word, PDF or PS file formats at the SAME

time as their short abstract submission (approx. 150 words).

Proposals for Tutorials and Panel sessions are also accepted in the VTC-2002-Fall. Tutorials (half-day or full-day sessions) that are intended to provide in-depth learning on a specific topic of interest to the participants. Panel sessions are 90 minutes long. They present leaders in a particular area discussing a topic of interest to the attendees of VTC-2002-Fall. There is usually significant audience participation in Panel sessions. Proposals for Tutorials and Panel sessions should consist of a 250 word summary, a 100 word abstract, and a cover page listing the details of the author(s) as given above. Summaries should be submitted electronically by February 15, 2002. Submissions should be made at the website <http://www.fallvtc2002.org>

The first date for submission of abstracts is **1 November 2001**. Abstracts must be submitted by **Feb 15, 2002**

#### **Dr. Vijay K. Bhargava, General Chair**

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## Conferences of Interest

The following table shows VT-06 sponsored and co-sponsored conferences as well as related conferences not sponsored by the Society. While every attempt was made to ensure accuracy, you should contact the respective conference committee to confirm date and location.

DATE	CONFERENCE	LOCATION	WEB PAGE
15-18 August 2001	3rd Int. Workshop on Mobile Wireless Comms Networks	Recife, Brazil	<a href="http://www.cin.ufpe.br/~mwcn2001/">http://www.cin.ufpe.br/~mwcn2001/</a>
19-22 August 2001	RAWCON 2001 Radio and Wireless Conference	Boston, MA	<a href="http://www.rawcon.org">http://www.rawcon.org</a>
25-29 August 2001	ITSC 2001	Oakland, CA	<a href="http://www.ewh.ieee.org/tc/its/2001/">http://www.ewh.ieee.org/tc/its/2001/</a>
9-12 September 2001	WPMC 01	Aalborg, Denmark	<a href="http://www.wpmc01.org">http://www.wpmc01.org</a>
25-28 September 2001	IVEC2001 Veh. Electronics Conf.	Tottori City, Japan	<a href="http://www.kankyo-u.gr.jp/ivec2001">http://www.kankyo-u.gr.jp/ivec2001</a>
26-28 September 2001	3rd Int. Workshop on Multi-Carrier Spread Spectrum	Oberpfaffenhofen, Germany	<a href="http://www.dlr.de/KN/KN-S/mcss2001">http://www.dlr.de/KN/KN-S/mcss2001</a>
30 September 3 October 2001	PIMRC 2001	San Diego, CA	<a href="http://www.pimrc2001.org">http://www.pimrc2001.org</a>
7-11 October 2001	VTC 2001-Fall	Atlantic City, NJ	<a href="http://www.fallvtc2001.org">http://www.fallvtc2001.org</a>
28-31 October 2001	MILCOM 2001	Washington, DC	<a href="http://www.milcom.org/2001">http://www.milcom.org/2001</a>
30 October 2001	Rail Comms Innovations Forum	New York, NY	See page 9
30 October 2 November 2001	CIC 2001 6 <sup>th</sup> Int CDMA Conf.	Seoul, Korea	<a href="http://www.kics.or.kr/cic.html">http://www.kics.or.kr/cic.html</a>
14-16 November 2001	ISCIT 2001	Chiang Mai, Thailand	<a href="http://www.kmitl.ac.th/~iscit/">http://www.kmitl.ac.th/~iscit/</a>
25-29 November 2001	Globecom 2001	San Antonio, TX	<a href="http://www.globecom2001.com">http://www.globecom2001.com</a>
20-24 January 2002	Int. Conf. On Micro Electro Mechanical Systems (MEMS)	Las Vegas, NV	<a href="mailto:kkcline@pmmiconferences.com">mailto:kkcline@pmmiconferences.com</a>
26-28 February 2002	European Wireless 2002	Florence, Italy	<a href="http://www.ing.unipi.it/ew2002">http://www.ing.unipi.it/ew2002</a> ✓
28 April 2 May 2002	ICC2002	New York, NY	<a href="http://www.icc2002.com">http://www.icc2002.com</a> ✓
6-10 May 2002	VTC 2002-Spring	Birmingham, AL	<a href="http://www.ewh.ieee.org/soc/vtc02spring/">http://www.ewh.ieee.org/soc/vtc02spring/</a> ✓
28-31 May 2002	3G Wireless 2002	San Francisco, CA	<a href="http://delson.org/3gwireless02/">http://delson.org/3gwireless02/</a> ✓
16-21 June 2002	APS International Symposium / URSI Radio Science Meeting	San Antonio, TX	<a href="http://www.ieeeaps.org/2002APSURSI/">http://www.ieeeaps.org/2002APSURSI/</a> ✓
16-21 June 2002	IST Mobile Summit	Thessaloniki, Greece	<a href="http://www.iti.gr/summit2002">http://www.iti.gr/summit2002</a> ✓
2-5 September 2002	ISSSTA 2002	Prague, Czech Republic	<a href="http://www.ure.cas.cz/isssta2002">http://www.ure.cas.cz/isssta2002</a> ✓
24-29 September 2002	VTC 2002-Fall	Vancouver, BC	<a href="http://www.fallvtc2002.org">http://www.fallvtc2002.org</a>
21-23 October 2002	Convergence 2002	Detroit, MI	<a href="http://www.convergence2002.org">http://www.convergence2002.org</a>
27-30 October 2002	WPMC 02	Honolulu, Hawaii	<a href="mailto:M.Clemente@ieee.org">mailto:M.Clemente@ieee.org</a>
21-24 April 2003	VTC 2003-Spring	Seoul, Korea	<a href="mailto:jhlee@gong.snu.ac.kr">mailto:jhlee@gong.snu.ac.kr</a>
Fall 2003	VTC 2003-Fall	Lake Buena Vista, FL	<a href="mailto:mguizani@cs.uwf.edu">mailto:mguizani@cs.uwf.edu</a>
Spring 2004	VTC 2004-Spring	Genoa, Italy	<a href="mailto:vatalaro@ing.uniroma2.it">mailto:vatalaro@ing.uniroma2.it</a>

Conferences marked ✓ have open calls for papers as of 31 August 2001. This list is based upon the conference calendar at our web site, which is updated more frequently than this list can be. To access it go to the following URL: <http://www.vtsociety.org/>, then click on Conference List in the left frame.

Corrections and additions to this list are most welcome. We are particularly interested in adding listings for Automotive and Transportation conferences. Please send corrections and additions to Tom Rubinstein at [t.rubinstein@ieee.org](mailto:t.rubinstein@ieee.org).