

IEEE VTS NEWS DIGEST

Connecting the Mobile World

Companion to VTS News, Volume 47, Issue 4 November 2000

Features

- 3 Wireless Standards Development - A New Paradigm
- 3 Vehicle Infotronics - The Driver Assistant Approach
- 3 Aiding Humanitarian Relief Efforts and Restoring Telecommunications Networks In Times Of Disaster
- 3 International Standards for Train Communication

Contents

- 1 Foreword
- 2 VTS Directory
- 4 Standards

- 4 Transportation Systems
- 5 Automotive Electronics
- 5 Mobile Radio
- 5 Professional Activities
- 5 Chapter News and Meetings
- 6 News
- 7 Awards
- 9 New Member Survey
- 10 Electronic Communications
- 10 Calls for Papers
- 12 Calendar of Events

Short articles are available on-line. For longer articles, only the abstract is available on-line. VTS News is sent to all VTS members, and is included in the society subscription. Non-VTS members can subscribe at a cost of \$30 per year. For details of this, or for pricing information of single copies, contact the IEEE Customer Service on 1-800-678-IEEE (USA and Canada), + 1 732-981-1393 (outside USA and Canada), and FAX: + 1 732-981-0027

Foreword

James Irvine, Editor

As a member of the Vehicular Technology Society who works mainly in the mobile radio domain, I am often asked 'what has the VTS to do with wireless?'. I can give no better answer than to direct the enquirer at the VTS web site and Sam McConoughey's excellent piece on the background of wireless in the VTS. However, the same question came up in a different form a few weeks ago – 'what has automotive electronics to do with mobile radio?'

Of course, the question could also be asked of land transportation, or even between land transportation and automotive, since the former includes much on the heavy power side not applicable in the automotive field, and the communication problem is different between, particularly, automotive and railway systems.

One common theme over all three areas is the autonomy of the system. This makes similar technology applicable. For example, fuel cells which have been researched for automotive applications are reducing in size to the point where they offer solutions for powering mobile radios. With much higher power densities than rechargeable batteries, very long service times are possible.

The science of engineering is one of solving problems, and solutions often come applying solutions from one field to a different, although perhaps related field. A perfect example of this was the talk 'Fast Cars, Big Bandwidth, & Java : Is this Geek Heaven?' given by David Douglas, VP of Network Experience at Sun to the VTC2000-Fall

conference. One of the speakers in the Discussion Panel of 3G Mobile and Beyond (a full report of the conference will appear in the next issue), Mr Douglas discussed the evolution of the motorcar from a means of transport to a telemetry and entertainment system, and the tension between a business model which desired centralised control (to make money), and innovation, which pulls towards a distributed system. He listed a series a basic requirements : a 'platform' with core functionality, longevity with upgradability, 'hardware' independence, scalability both up and down, an evolving security model, and an environment with tools and the training to use them. With the timing of a magician, having got the audience's agreement of the desirability of these properties in an automotive electronics environment, he then pointed out their applicability to mobile radio. Different problem, similar solutions.

Engineering is increasingly interdisciplinary. The IEEE is recognising this through the creation of Technical Councils involving a number of different societies. ITS is clearly vehicular technology, but it involves a number of different activities as well, which is why it the ITS Council involves seventeen societies. The new Sensors Council has twenty six (VTS included).

So, the next time someone asks why the VTS covers such seemingly diverse technologies, point out the advantages that gives us!

Vehicular Technology Society Executive Committee

President, **A. Kent Johnson**
Brigham Young University
1225 East Cambridge Court
Provo, UT 84602
Tel: 1 801 378 3726
Fax: 1 801 378 7575
E-mail: a.k.johnson@ieee.org

Executive Vice President, **J. R. Cruz**
The University of Oklahoma
School of Electrical and Computer Eng
202 West Boyd, Room 219
Norman, OK 73019-0631
Tel: 1 405 325 4280
Fax: 1 405 325 3836
E-mail: cruz@mailhost.ecn.ou.edu

Vice President Mobile Radio,
Eric J. Schimmel
6216 Hollins Drive
Bethesda, MD 20817
Tel: 1 301 530 7987
E-mail: e.schimmel@ieee.org

Vice President Land Transportation,
Harvey M. Glickenstein
PB Transit & Rail Systems, Inc
3334 Adams Court
Bensalem, PA 19020
Tel: 1 201 648 8700
Fax: 1 201 648 0888
E-mail: h.glickenstein@ieee.org

Vice President Motor Vehicles,
Robert A. Mazzola
R.A. Mazzola Associates.
12500 Crystal Mountain Drive #620
Thompsonville, Michigan 49683.
Tel: 1 231 378 4722
E-mail: rmazzola@prodigy.net

Secretary, **Essam Sourour**
Ericsson, Inc.
7001 Development Drive
Post Office Box 13969
Research Triangle Park, NC 27709
Tel: 1 919 472 7067
Fax: 1 919 472 6555
E-mail: sourour@rtp.ericsson.se

Treasurer, **Charles Backof**
Motorola
8000 W. Sunrise Blvd.
Fort Lauderdale, FL 33322
Tel: 1 954 723 6152
Fax: 1 954 723 6957
E-mail: EPOR16@email.mot.com

VTS Board of Governors

Charles Backof ('01) *VTS Treasurer*

Dennis Bodson ('01)
Standards Committee Chairman
233 N. Columbus St.
Arlington, VA 22203
Tel: 1 703 243 3743
Fax: 1 703 522 4342
E-mail: bodson@worldnet.att.com

J. R. Cruz ('02) *Executive Vice President,
IEEE Transactions on Vehicular
Technology Editor*

Robert Fenton ('01)
Ohio State Univ.
2177 Oakmount Rd.
Columbus, OH 43221
Tel: 1 614 292 4310
Fax: 1 614 292 7956
E-mail: fenton@ee.eng.ohio-state.edu

Robert L. French ('00) *IEEE ITS Council
Representative*
R&D. French Associates
6137 Tuliptree Lane
Nashville, TN 37221
Tel: 1 615 673 6211
Fax: 1 615 673 0311
E-mail: r.french@ieee.org

John T. Gilsean ('02)
13736 Lockdale Rd.
Silver Spring, MD 20906-2117
Tel: 202 647 2592
Fax: 202 647 7407
E-mail: GILSEANJT@state.gov

A. Kent Johnson ('01) *VTS President*

Anil T. Kripalani ('02) *Membership
Committee Chair*
Qualcomm Inc.
5775 Morehouse Drive, Rm L-514K
San Diego, CA 92130
Tel: 1 858 658 4241
Fax: 1 858 658 2115
E-mail: anilk@qualcomm.com

Melvin A. Lewis ('00) *National
Conference Coordinator, Conference
Board Member*
Lockheed Martin
Ridge Hill M/S-29
Yonkers, NY 10710
Tel: 1 914 964 3820
Fax: 1 914 964 2891
E-mail: m.lewis@ieee.org

Robert A. Mazzola ('00) *VTS Vice
President, Convergence Conference
Committee Representative, SAE Liaison,
Long Range Planning Committee Chair*

George F. McClure ('00) *Past President,
Conference Committees Chairperson,
Public Relations/Publicity Committee
Chairperson*
1730 Shiloh Lane
Winter Park, FL 32789
Tel: 1 407 647 5092
Fax: 1 407 644 4076
E-mail: g.mcclure@ieee.org

Samuel R. McConoughey ('01)
Past President
Mobile Communications Consulting
13017 Chestnut Oak Drive
Gaithersburg, MD 20878-3556
Tel: 1 301 926 2837
Fax: 1 301 926 2506
E-mail: mccon@compuserve.com

Tom Rubinstein ('02) *VTS Webmaster,
Conference site selection, New member
liaison*
Motorola
9980 Carroll Canyon Road
P. O. Box 85036
San Diego, CA 92186-9130
Tel: 1 858 530 8432
Fax: 1 858 530 8313
E-mail: cegr01@email.mot.com

Raymond C. Trott ('00) *Awards
Committees Chairperson, Paper of the
Year Awards, Avant-garde Awards*
Trott Communications Group, Inc.
1425 Greenway Drive, # 350
Irving, TX 75038
Tel: 1 972 580 1911
Fax: 1 972 580 0641
E-mail: ray.trott@trottgroup.com

James A. Worsham, Jr. ('02) *Conference
Board Member*
BellSouth, Room 42U85,
675 West Peachtree Street NE,
Atlanta, GA, 30375
Tel: 1 404 330 0381
Fax: 1 404 330 0386
E-mail: jim_worsham@snt.bellsouth.com

VTS News Staff

Editor

James M. Irvine
Mobile Communications Group, EEE
Strathclyde University
George Street
Glasgow G1 1XW Scotland
Tel: +44 141 548 4072
Fax: +44 141 552 4968
E-mail: j.m.irvine@ieee.org

Senior Editors

Standards

Dennis Bodson

Automotive Electronics

William J. Fleming
TRW Vehicle Safety Systems, Inc.
4505 West 26 Mile Road
Washington, MI 48094
Tel: 1 810 781 7394
Fax: 1 810 781 7274
E-mail: william.fleming@trw.com

Transportation Systems

Harvey M. Glickenstein

Mobile Radio

Javier Gozalez
C/ San Juan Bosco, nº 14-B 3F
03005 Alicante
SPAIN
E-mail: j.gozalez@ieee.org

Professional Activities

Frank E. Lord
35 Hartford Ave.
San Carlos, CA 94070
Tel/Fax: 1 650 594 0512

Chapter News & Meetings

Gaspar Messina
9800 Marguetta Drive
Bethesda, MD 20817
Tel: 1 202 418 1348
Fax: 1 202 418 1412
E-mail: GMESSINA@fcc.gov

Book Reviews

Dirk Pesch
Cork Institute of Technology
Rossa Avenue, Cork
IRELAND
E-mail: dpesch@cit.ie

Feature Articles in the November Issue

Wireless Standards Development - A New Paradigm

Stephen M. Blust, Chair, ITU Working Party 8F

This paper describes fundamental changes that have taken place in the development of international commercial wireless telecommunications standards and traces the steps in this evolution. The development of the recommendations, technical specifications and standards for the air interfaces for the next generation of commercial wireless systems is used as an illustrative example of these changes. This next

generation of wireless which is known as IMT-2000 in the International Telecommunications Union (ITU) also referred to as Third Generation (3G) wireless. The process created by the ITU in developing Recommendations for IMT-2000 sets a new framework for international cooperation in telecommunications standards development.

Vehicle Infotronics - The Driver Assistant Approach

Peter Anders and Rüdiger Prang, Volkswagen AG

A new approach to improve the driver's safety is to actively support the driving task and prevent possibly dangerous situations. This paper is about the family of Driver Assistance Systems which will combine three steps of information processing:

- *Automatic collection of data by scanning the environment of the vehicle*

- *Automatic processing of data according to the need of the driver and his driving task*
- *Appropriate presentation of valuable information to the driver*

Electronic sensor systems will enlarge the driver's knowledge about what is actually going on around his vehicle. These systems expand the human sensor systems eye and ear for the special purpose "safe driving".

IEC 61375-1 AND UIC 556 – International Standards for Train Communication

Christoph Schäfers and Gernot Hans, DaimlerChrysler Rail Systems GmbH

The communication system within a train is a central issue for train system integration. Historically, there have been numerous, proprietary and non-interoperable solutions. IEC 61375 and UIC 556 have now been issued as a set of international standards to over-come this situation: IEC 61375, the Train Communication Network (TCN), defines a communication architecture and the necessary protocols for non-vital communication on train and on vehicle level. It consists of a two-layered, hierarchical architecture to suit the needs of inter- and intra-vehicle communication. UIC 556 and the accompanying UIC codes define the operator's view on the train, the frame-work for the coordination of the

different applications and the operational handling to ensure interoperability between vehicles from different manufactures.

This protocol suite has been successfully explored in operational test trains as well as in large number of actual running projects for DMUs, EMUs, high-speed trains, locomotives, passenger trains, suburban trains, as well as trams. It is used for new vehicles and for vehicle refurbishment.

The article focuses on the TCN and UIC standards, their development and application in actual projects.

Aiding Humanitarian Relief Efforts and Restoring Telecommunications Networks in Times of Disaster

Dag Nielsen and Jennifer Hilborn, Ericsson

In April 2000 melting snow and heavy rains led to serious flooding in Hungary, Romania, and the Federal Republic of Yugoslavia. The area of Szolnok, Hungary was among the hardest hit with the city lying about 1-1.5 metres below water and enormous pressure on area dams. More

than 2000 people were evacuated from 11 settlements and many others were advised to leave their homes. Roads were blocked by water and both terrestrial and mobile telecommunications systems were damaged.

Regular Columns in the November Issue

Standards

Dennis Bodson, Senior Editor

Dear VTS Members,

I would like to take this opportunity to introduce myself. My name is Dennis Bodson, and I am the Chairman of the VTS Standards Committee. It is my intent to provide you with information on a periodic basis about what the Vehicular Technology Society (VTS) is doing in the world of standards. I thought I would start off with my biographical sketch to acquaint you with my background and experience in the standards arena. Subsequent columns will address VTS standards activities.

I look forward to presenting you with the most current standardization activities of the VTS.

Sincerely,

Dennis Bodson, Chairman
VTS Standards Committee.

Born in Washington, DC, on July 7, 1939. Received the B.E.E. and M.E.E. degrees in Electrical Engineering from The Catholic University of America, Washington, DC, in 1961 and 1963, respectively, and a Master's degree in Public Administration from the University of Southern California Washington Center for Public Affairs, Washington, DC, in 1976. Completed his PhD in Electrical Engineering, from California Western University, in 1985.

During 1963-1966, served as an officer in the U.S. Air Force at the National Security Agency. From 1966 to 1969, he was with Vitro Laboratories, Atlantic Research Corporation and the U.S. Army Materiel Command, where he was engaged in Research and Development, and

Systems Engineering. In 1970 joined the staff of the National Communications System (NCS), an organization of the Federal Government, in Washington, DC. Prime areas of responsibility are telecommunications technology, electromagnetic pulse, and the development of International, National, and Federal Standards relating to National Security and Emergency Preparedness Communications in the areas of, network management, restoration of networks, network congestion control, protection of networks, optical switches, broadband integrated services digital network (B-ISDN), asynchronous transfer mode (ATM), synchronous optical network (SONET) digital hierarchy, video-teleconferencing, facsimile, high frequency (HF) radio systems, cellular systems, mobile systems, personal communication systems (PCS), universal personal communications (UP) systems, security of communications, and building communications wiring, including optical fibers. Recently retired from Federal service as the Chief of the Technology and Standards Division of the National Communications System.

Registered Professional Engineer in the District of Columbia and State of Virginia, is certified by the National Council of Engineering Examiners, holds an FCC First Class Radiotelephone with Radar endorsement and a Radiotelegraph License, is an Amateur Radio Extra Class Licensee (W4PWF), and is a Fellow of the IEEE and a Fellow of the Radio Club of America. Currently the Director of the Roanoke Division of the Amateur Radio Relay League.

Transportation Systems

Harvey Glickenstein, Senior Editor

These are the items covered in the Transportation Systems column in the November 2000 VTS News. Please see the printed version for the full article.

- Four European railways have formed a joint company to create a new high-speed rail network.
- The Delhi Metro Rail Corporation (DMRC) is about to award its first contract for rolling stock..
- Denver opened its Southwest Light Rail Line in July.
- Pittsburgh's Port Authority has awarded a contract for 28 new light rail vehicles and rehabilitation of its 55 existing light rail vehicle.
- Bangkok's Skytrain system had lower than expected ridership in its first six months.
- Guangzhou China has ordered additional rapid transit trains.
- DART in Dallas has won a referendum to accelerate construction of an additional extension to the existing 20-mile light rail starter system and the 4-mile extension under construction.
- San Francisco's Municipal Railroad (MUNI) is proposing to reestablish rail service along 3rd Street.
- Korea has selected a consortium for a design-build-operate-maintain (DBOM) contract for a rapid transit system linking the suburban city of Kimhae with Pusan.
- Adtranz Signal has been awarded the Thameslink Associated Signalling Works Design and Development Contract for Railtrack Thameslink 2000.

Automotive Electronics

Bill Fleming, Senior Editor

These are the items covered in the Automotive Electronics column in the November 2000 VTS News. Please see the printed version for the full article.

- U.S. Intelligent Vehicle Initiative Goals
- Renault To Make 1st Production 42-Volt System
- Keyless, RF Transponder-Less, Fingerprint Car Start
- Telematics (E-Mail, Internet, etc.) Controls in the Rearview Mirror
- Cell Phone Distraction Issues
- Cell Phones and Brain Cancer
- Year 2000 – Biggest Engine Trends

Professional Activities

Frank Lord, Senior Editor

In this article, Frank Lord discusses the IEEE-USA Professional Development Conference (PDC) in Scottsdale, Arizona and the Uniform Computer Information Transactions Act.

Mobile Radio

Javier Gozalez, Senior Editor

These are the items covered in the Mobile Radio column in the November 2000 VTS News. Please see the printed version for the full article.

- Bluetooth news
- Microsoft expands into the wireless market
- m-commerce
- Forums
- Mobile phone health risks
- China pushes forward TD-SCDMA standard
- i-mode development
- GSM standardization work transferred to 3GPP
- Technology news
- Mobile satellite communications
- WAP news
- South Korea scraps subsidies on mobile phones
- Spectrum licensing
- FCC news
- TETRA
- Trade and business news

Chapter News & Meetings

Gaspar Messina, Senior Editor

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.

New Society Speaker

Our Senior Editor for Automotive Electronics, William J. Fleming from TRW Vehicle Safety Systems of Washington, MI, has joined the society speaker programme.

William Fleming earned his Ph.D. degree and MSE degree in Electrical Engineering from the University of Michigan in 1971 and 1966, respectively. He currently is a senior staff technologist at TRW Occupant Safety Systems in Washington, MI, where he is developing new safety-restraint products, and doing related studies involving risk-analysis and new technology. Before this, for five years, at TRW Automotive Electronics Group, he developed new types of sensors and actuators for use in automotive control systems. Prior to TRW, for eleven years, he did sensor development for automotive engine-control systems,

at General Motors Research Laboratories. Dr. Fleming was the recipient of the Vincent Bendix Award for best SAE paper on automotive electronics. He also received the Avant Garde Award from the IEEE Vehicular Technology Society. Since 1974, and continuing through present, he serves as Automotive Electronics Senior Editor for the IEEE VTS News.

The following talks are available from Dr. Fleming.

1. Automotive sensors and actuators used in powertrain systems. Powertrain systems include: (a) engine controls, (b) transmission control, and (c) on-board OBD-II diagnostics-sensing.
2. Automotive sensors and actuators used in chassis systems. Chassis systems typically include: (a) ABS braking, (b) electric power steering, (c) stability-enhancement chassis control, and (d) active suspension control.
3. Automotive sensors and actuators used in body systems. Body systems include: (a) air bag crash sensing and occupant sensing, (b) vehicle collision avoidance, (c) adaptive cruise control, (d) intelligent transportation/automated highways, (e) comfort/convenience systems, and (f) anti-theft, intrusion alert, systems.

These talks are excerpted from a 3-day, seminar, titled: *Sensor & Actuator Technology*. This 3-day seminar is offered four times annually, at various U.S. locations, by SAE (Society of Automotive Engineers) International, Warrendale, PA. Since its creation in 1995, over 600 persons from automotive and electronics industries have attended the seminar.

The other speakers available in the programme are Linda Sue Boehmer and Al Gross.

Philadelphia, Pennsylvania

This chapter has held two meetings recently. The first, on June 7, 2000, was a Tour of SEPTA's Control Center with speakers Mr. Dan Bidwell and Mr. Mark Glassen from the South East Philadelphia Transit Authority, as hosts. Then on September 13, 2000, Mr. David Strong, from Booz, Allen and Hamilton presented a paper on JFK Airtrain – Project Status in the Systems Areas. A total of 47 people attended both meetings including 28 guests.

VTS News

VTS Board of Governors Election Results

This ballot for year's IEEE VTS Board of Governors election closed on the 18th of September. The VTS has 15 Governors, with each Governor serving for a term of three years. This means that there are five positions to be filled each year.

This year's successful candidates were:

Robert L. French
Robert A. Mazzola
George F. McClure
Gordon L. Stüber
Raymond C. Trott.

Robert French, Robert Mazzola, George McClure, and Raymond Trott are existing members of the Board of Governors. Professor Gordon Stüber is with the Georgia Institute of Technology, and is also Vice President for Research with WiLAN, Inc. His main research interest is in wireless communications and communications signal processing; he is author of a textbook on the subject, "*Principles of Mobile Communications*". He was Technical Programme Chair of VTC'96, which was held in Atlanta, and is co-chair of the 2000 IEEE Workshop on Multimedia, Multiaccess and Teletraffic for Wireless which will be held in Florida later this year.

Professor Stüber will take the position of Mel Lewis, who will retire from the Board of Governors at the end of the year. Mel Lewis has been Conference Coordinator since 1994, and has overseen a period of considerable expansion in the conference activities of VTS, from the first VTC held outside the USA (in Sweden in 1994), to the expansion to two VTCs per year in 1999. Conference attendance across the two conferences is now averaging three times the figures of the single conference in the early 1990s. The conference handbook he maintains (which is available on the VTS web site), allows lessons from each conference to be fed in to subsequent ones, which contributes to their success.

Mel Lewis has also been active on the education committee of the VTS, resurrecting it from its dormant state and organising a wireless networking course. He now has a profession interest in the subject, having recently returned to his *alma mater*, Fairleigh Dickinson Univ., of Teaneck, NJ to take up a faculty position.

VTS Executive Committee Elections

Elections were also undertaken at the September Board of Governors meeting for the Executive Committee for 2001. Society President, Kent Johnson, having served two terms is not eligible to stand again, and J. R. Cruz was elected to serve as President from 1 January 2001. Dennis

Bodson will be the new Executive Vice President. The other executive positions are unchanged. J. R. Cruz will vacate the position he currently holds as Editor of the Transactions from the end of the year, to be replaced by Greg Bottomley from Ericsson.

IEEE Xplore

The IEEE's new web-based on-line electronic library, IEEE Xplore™, is now up and running. The system is an amalgam of the OPeRA (Online Periodicals and Research Area) and Bibliographies Online (the collection of IEEE abstract and citation records) into a system that provides both and is easier to use.

The system allows access to tables of contents, abstracts and full papers dating back to 1988. There are three access levels. Everyone, including non-members, can access the most basic level which allows the searching of tables of contents of IEEE transactions and conference publications, IEEE Spectrum, and the IEEE/IEE electronic library. IEEE members, irrespective of which societies they belong to, can access the next level, which allows access to full text articles of the IEEE Spectrum, as well as the ability to search and view abstract and citation records. The third level of access is society dependent, and depends on the subscription you have to different publications. Societies can choose to allow their members to access their publications on-line, and the VTS has done so for the Transactions in Vehicular Technology. This means that VTS members who are current subscribers have access to all VT Transactions articles back to 1988.

The system allows for the browsing of table of contents as well as searching for particular authors. The articles are available in PDF format, although more recent articles (since 1996), are also available in searchable HTML format. The full text of these articles will also include links from their reference lists to other articles in the database, making searching easier.

IEEE Xplore is accessed through an IEEE web account, so you have to set one up to use the system. However, once this has been done, the system is intelligent enough to know all your society memberships and give you the correct access to publications, saving the requirement to keep separate details for different subscriptions.

Dan Noble Fellowship

Angela Kaczmarek, from the Illinois Institute of Technology, has been awarded the Daniel E. Noble Fellowship. The Graduate Fellowship in Electrical and Electronic Engineering, which has a value of \$7500, is jointly established by the IEEE VTS and Motorola as a

memorial to Daniel E. Noble, in recognition of his valuable contributions to the development of two-way vehicular communications and solid state technology. Recipients of the award are selected by a committee on the basis of the candidate's potential to contribute to the profession of Electrical and Electronic Engineering, specifically in the technology areas covered by the VTS.

Convergence Fellowship

Mr. Jean Yves Routex, a French student currently studying at Texas A&M University, is the awardee for the 2000-1 Convergence Fellowship. The graduate fellowship in Transportation Electronics was established jointly by IEEE VTS and the CONVERGENCE Education Association to support a student for one year of graduate study. This fellowship, which has a yearly stipend of \$12000, is awarded biannually at the CONVERGENCE Conference.

Mr. Routex received a bachelors degree with honors from Math sup/Math Spe (France) in June 1997, and a masters degree in Electrical Engineering from ENSIEG-INPG (France) in June 2000. He is currently enrolled at Texas A&M where he is pursuing a masters in Electrical Engineering as a research assistant in the Texas A&M Advanced Vehicle Group. As part of his research, he has presented a paper for VTC 2000-Fall on Modeling of Hybrid Electric Vehicles Using Gyration Theory, which allows modelling of hybrid vehicles containing an electric

motor and an internal combustion unit by an equivalent electrical circuit, simplifying design.

A career objective of Mr. Routex is to perform research on hybrid electric vehicles.

New VTS News Senior Editors

With this issue we welcome two new Senior Editors to the staff of the VTS News.

Dr Dennis Bodson, Chair for the VTS Standards Committee, will report on the standards activity of the VTS. Standards activity is a very important area of the work of the Society and the IEEE more generally, but due to the lengthy and detailed nature of the work it goes relatively unreported. Dennis Bodson's column will provide a focus for standards activity in the VTS News. His first column appears on page 4, and our feature article in this issue looks at worldwide standards activities towards 4th generation mobile radio.

Dr Dirk Pesch, from the Cork Institute of Technology in Ireland joins us to co-ordinate book reviews. This is an area identified by members as being something they would find useful in the VTS News. If you are interested in helping with book reviews please contact Dirk Pesch at the address given on Page 2. If you responded to the VTS News questionnaire expressing an interest we will be in touch with you, but some people who answered on the web did not give contact details, so drop us a line if you haven't heard anything.

VTS Awards

Ray Trott, Awards Chairman

The VTS recognizes those who contribute to & support VTS in an exceptionally worthy manner. There are several awards and fellowships that VTS considers in expressing its appreciation to members of the Society. Although all of these awards are considered, not all are awarded annually. These awards also have differing prizes: Plaques, Certificates and/or money.

With two Vehicular Technology Conferences held this year, in opposite corners of the globe, some awards were presented in Tokyo and some in Boston.

Chapter of the Year Award - This award is presented to recognize the outstanding Chapter of the Vehicular Technology Society. To be eligible, a Chapter must submit to IEEE Headquarters the meeting attendance report form, L-31. The award is a plaque.

The 1999 winner was for an un-precedented third year in a row, the Tokyo VTS Chapter. The award was presented to the 1999 Chairman of the Tokyo Chapter, Professor Masayoshi Aoki.

Special Service Award These are awarded outstanding performance to the society. Ramjee Prasad was presented with such an award at VTC in Tokyo for the planning and execution of the VTC Fall 1999, September 19 to September 22, 1999, Amsterdam, The Netherlands.

A VTC2000-Fall in Boston there were two such awards, to Dr Kumar Krishen, for the organisation of VTC'99-Spring in Houston, and to Prof Mitsutoshi Hatori, chair of VTC2000-Spring 2000 in Tokyo

Avant Garde Awards These awards are given to recognize leadership and continuing contributions in promoting new technology in the field of vehicular communications and electronics.

Dr. Sadao Takaba - For his role in the development of traffic measurement technologies.

Dr. Fumiuyuki Adachi - For his leadership role in radio access technology and development of W-CDMA technology.

IEEE Third Millennium Medals As part of the celebration of the Third Millennium, the IEEE is awarding approximately 3000 IEEE Millennium Medals and certificates to IEEE members who have been selected by IEEE societies, sections, regions and major boards for outstanding contributions in their respective areas of activity. The Vehicular Technology Society nominated 17 of its members for the medals:

Linda Sue Boehmer ‡
J. R. Cruz †
Robert E. Fenton ‡
Robert L. French †
A. Kent Johnson †
Trevor O. Jones
William C. Y. Lee †
Samuel A. Leslie ‡
Roger D. Madden ‡
Robert A. Mazzola ‡
Samuel R. McConoughey †
Robert W. McKnight ‡

Evan B. Richards ‡
 Thomas N. Rubinstein †
 Eric J. Schimmel ‡
 Raymond C. Trott
 Jan E. Uddenfeldt ‡

Members received their medal in Tokyo (†) or Boston (‡), with Trevor Jones receiving his medal at Convergence 2000.

Neal Shepherd Award for the Best Propagation Paper This was awarded to Jean-Yves Chouinard, Francois Patenaude and John Lodge from Canada for their paper, "Eigen Analysis of Wide-Band Fading Channel Impulse Responses" published in the March 1999 Transactions in Vehicular Technology. They received their award at the Boston conference.

Tokyo Section Paper Awards The Tokyo Chapter of VTS presented paper awards at the Awards Luncheon at VTC2000-Spring.

Kai-Kit Wong, Sai-Kit Lai, R.S-K Cheng, K.B.Letaief and R.D.Murch, The Hong Kong University of Science and Technology, for "Adaptive Spatial-Subcarrier Trellis Code MQAM and Power Optimization for OFDM Transmission".

Kuenyoung Kim and Youngnam Han, Information and Communications University, for "A Call Admission Control with Thresholds for Multi-rate Traffic in CDMA Systems".

Thomas Hunziker and Dirk Dahlhaus, Swiss Federal Institute of Technology, for "Iterative Symbol Detection for Bandwidth Efficient Nonorthogonal Multicarrier Transmission".

Stuart Meyer Memorial Award This special VTS award was presented at the Banquet at the Tokyo Conference.

The Stuart Meyer Memorial Award is an award to recognize those members of the Vehicular Technology Society who have both served their Society and also have contributed to the development of radio technology and science in an outstanding and exemplary manner. Stuart Meyer was a pioneer in the Vehicular Technology Society. He provided a level of service unequaled in the history of VTS. Candidates must exhibit a level of service approaching what Stu Meyer had provided before they will be considered. The prize is a plaque and a stipend of \$2,500 which is provided by both Ericsson, Inc. and IEEE VTS.

This award was presented to Dr. Kenkichi Hirade, Tokyo, Executive Vice President of Japan Radio Corporation. Dr. Hirade received his BS, MS and PhD degrees in Electrical Engineering from Nagoya University. For most of his career, he worked for Nippon Telegraph and Telephone Corporation where he was a leader in the development of digital radio systems which included satellite and high capacity digital cellular systems. During 1989-1991, he was a project leader of the development of NTT's pocket-sized portable radio telephone unit named "MOVA". He has had heavy involvement as an officer of the Tokyo VTS chapter. His accomplishments include many VTS published papers and VTS related patents.



Raymond Trott presenting millennium medals to (clockwise from top) Linda Sue Boehmer, J. R. Cruz, Robert E. Fenton, Robert L. French, A. Kent Johnson, William C. Y. Lee, Roger D. Madden, Robert A. Mazzola, Samuel R. McConoughey, Robert W. McKnight, Evan B. Richards, Thomas N. Rubinstein, Eric J. Schimmel, Raymond C. Trott and Mr Eriksson, who received the award on behalf of Jan E. Uddenfeldt

New Member Survey

The Board of Governors of the IEEE Vehicular Technology Society invites new IEEE VTS members to complete this survey. A forthcoming survey will be aimed at members who have been members for more than one year.

The survey form is available on the web at <http://survey.vtsociety.org/>, and this is the simplest way of

completing it. If you do not have web access, please fill out the form and send it to:

Tom Rubinstein
 Motorola
 9980 Carroll Canyon Road
 P. O. Box 85036
 San Diego, CA 92186-9130

1 What one thing could IEEE VTS do to help you professionally?

.....

2 Are you active in your local IEEE VTS chapter?

- Officer
- Attend regularly
- Don't attend regularly
- No VTS chapter near me

3 Which of the following IEEE VTS services is/are of interest to you?

- Conferences Newsletter
- Chapter activity Transactions
- Awards Standards

Other (please write in).....

4 What other IEEE societies are you a member of?

.....

5 Did you attend any Vehicular Technology Conferences prior to joining VTS? Yes No

6 What *one thing* most attracted you to join VTS?

.....

This is the end of the "minimalist" version of the survey. If you can spare a few more moments, we would appreciate you completing the following demographic information:

7 What is the general nature of your employment?

- Student Academic (other than student)
- Government Industry
- Consultant Retired

7 What is your IEEE membership grade?

- Student Associate
- Member Fellow
- Fellow Affiliate

8 How long have you been a member?

Of the IEEE (years)
 Of the VTS (months).....

This survey is anonymous. However, if you would like to volunteer for a VTS committee or would like to ask a question, please fill in the information below:

- Awards
- Long-range planning
- Propagation
- Transactions
- Chapter activities
- Membership
- Public relations/publicity
- Transnational
- Conference Board
- Newsletter
- Standards

10 I would like to volunteer for the following committees

.....

11 I have the following comment or question for the VTS

.....

Name and address or email

.....

Electronic Communications

Tom Rubinstein

Web Stuff

The VTS will shortly be moving its Web Server. To anticipate this change, we encourage those who have not been using our alias to begin doing so immediately. The URL for the alias is <http://www.vtsociety.org>. Once the new server is working properly, we will re-direct the alias to the new server. If you start using the alias now, the migration to the new server will be invisible to you.

To make it easier for our members to reach VTS servers other than our main server, we have established some

easy-to-remember sub-domain names. We will establish others as the need arises. The currently existing sub-domains are the following:

propagation.vtsociety.org Propagation committee web site
transactions.vtsociety.org *Transactions on VT* web site

E-Mail

Sometimes you don't know which VTS volunteer is the right person to help you with a problem. To make it easier for you to find the VTS volunteer you need to help you, we have established e-mail addresses based upon job title. When the individual holding a particular position changes, the forwarding will be changed, so that the e-mail address follows the position, not the individual. Below is a table of VTS e-mail addresses:

pres@vtsociety.org	President
xvp@vtsociety.org	Executive Vice President
vpLandTrans@vtsociety.org	Vice-President for Land Transportation
vpMobileComm@vtsociety.org	Vice-President for Mobile Communications
vpMotorVeh@vtsociety.org	Vice-President for Motor Vehicles
pastpres@vtsociety.org	Junior Past President
secy@vtsociety.org	Secretary
treas@vtsociety.org	Treasurer
awards@vtsociety.org	Awards Chairman
chapters@vtsociety.org	Chapters Coordinator
conf@vtsociety.org	Conference Coordinator
newMem@vtsociety.org	New Member Liaison
news@vtsociety.org	VTS News Editor
propagation@vtsociety.org	Propagation Committee Chairman
siteSel@vtsociety.org	Conference Site Selection
stds@vtsociety.org	Standards
transactions@vtsociety.org	Transactions Chief Editor
webmaster@vtsociety.org	Webmaster

Call for Papers

VTC2001-Fall

Arthur Greenberg, *Chairman, VTC-01/Fall*

These are exciting times in the field of mobile communications and transportation systems. New techniques and new advances in components have combined to open the doors of our technology. New and advanced applications are becoming an everyday occurrence. And the market for mobile communications is growing at an astounding rate.

The growth of knowledge that accompanies our expanding field must be disseminated to the members of the field and that is the purpose of the semiannual Vehicular Technology conferences. The 2001 Fall conference will continue the tradition of presenting the latest developments in the technical areas that are

germane to mobile communications. To enhance the conference we will be introducing a one day workshop of "hot" topics to supplement the normal four days of papers and tutorials.

The location of VTC-01/Fall will be Atlantic City, NJ. Atlantic City has long been known as a seaside resort with excellent facilities for the entire family, and it is located about one hour from Philadelphia. It is convenient, by car or train, to a large percentage of the IEEE membership and air transportation is available from anywhere in the world, via Atlantic City and Philadelphia International airports.

The VTC-01/Fall committee hopes to make this an enjoyable and rewarding conference and we hope to see you.

A full Call for Papers appears overleaf.



"Connecting the Mobile World"

CALL FOR PAPERS
The IEEE Semiannual
Vehicular Technology
VTC-2001/Fall Conference
October 7-11, 2001
Atlantic City Sheraton Conference Hotel
Atlantic City, NJ



VTC-2001/Fall will be held in Atlantic City, New Jersey. The goal of the conference is to provide quality coverage of technical innovation and applications of vehicular and mobile systems. Over 400 full technical papers and posters will be presented, along with tutorials and exhibits. The program committee invites your participation in the conference, including papers and tutorials in the following areas

- Antennas and Propagation (01): Smart antennas, space-time processing, channel modeling, prediction tools.
- Wireless Access (02): Multiple Access Technology, spread spectrum technology, OFDM Technology, Access Protocols, Channel Assignment
- Transmission Technology (03): Modulation/demodulation, Source/channel coding, interference rejection, equalization and synchronization, multi-user detection, Software radio, Receiver and transmitter design.
- Multimedia, Networks and Systems (04): Mobile multimedia technology, mobile data/computing/navigation networks, wireless ATM
- Wireless Personal Communication Systems (05): IMT-2000, broadband mobile communication systems, cellular technology, location techniques
- Mobile Satellite (06): Mobile satellite communications, LEO/MEO/GEO networks, navigation
- Transportation (07): Intelligent transportation/vehicle systems, vehicular electronics

Submission of Abstract

Authors should submit an extended abstract up to 2 pages. Forms for submission are soft copy in MS Word, PDF or PS. The submission must include the name, complete return address, telephone and FAX numbers, the designation number of the Technical Subject Areas of the paper, and the email address of the author(s). Submissions should be submitted to the website

<http://www.fallvtc2001.org>

Important Dates

Feb 28, 2001 last date for submission of abstracts
May 15, 2001 notification of acceptance
July 15, 2001 last date for submission of full paper

General Chair
Arthur H. Greenberg
Lucent Technologies
Email: a.h.greenberg@ieee.org

Technical Program Chair
Jack H. Winters
ATT Research
jhw@research.att.com

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
6-8 November 2000	APWC '00	Waltham, MA	http://www.eece.unm.edu/apwc2000
6-9 November 2000	7 th World Congress on ITS	Turin, Italy	http://www.torino2000.itscongress.org
12-15 November 2000	WPMC-2000	Bangkok, Thailand	http://www.tc.ait.ac.th/wpmc.htm
19-23 November 2000	ICCS 2000 7 th IEEE Singapore Int Conf on Communications	Singapore, Singapore	http://iccs.cwc.nus.edu.sg/
22-25 November 2000	5 th CDMA International Conference CIC 2000	Seoul, Korea	http://cic.etri.re.kr
27 November – 1 December 2000	Globecom 2000	San Francisco, CA	http://delson.org/si/gc00/
29-30 November 2000	Multiradio Multimedia Comms MMC 2000	Berlin, Germany	http://www.comnets.rwth-aachen.de/~drive
3-6 December 2000	MMT 2000	Duck Key, FL	mailto:stuber@ee.gatech.edu
17-20 December 2000	ICPWC '00	Hyderabad, India	http://www.citr.ece.uvic.ca/icpwc2000
20-22 February 2001	EPMCC 2001	Vienna, Austria	http://www.epmcc.com
17-19 April 2001	Joint Rail Conference	Toronto, Canada	
6-9 May 2001	VTC 2001-Spring,	Tel Aviv, Israel	http://www.congress.co.il/ieee_new/
6-8 June 2001	3Gwireless 2001	San Francisco, CA	http://delson.org/3gwireless01 ✓
11-15 June 2001	ICC2001	Helsinki, Finland	http://www.icc2001.com ✓
8-13 July 2001	APS International Symposium / URSI Radio Science Meeting	Boston, MA	http://www.ieeeaps.org/2001APSURSI/
9-12 September 2001	WPMC'01	Aalborg, Denmark	http://www.wpmc01.org ✓
30 September – 3 October 2001	PIMRC 2001	San Diego, CA	http://www.pimrc2001.org ✓
7-11 October 2001	VTC 2001-Fall	Atlantic City, NJ	http://www.fallvtc2001.org ✓
28-31 October 2001	MILCOM 2001	Washington, DC	
25-29 November 2001	Globecom 2001	San Antonio, TX	mailto:g.weisman@comsoc.org/
Spring 2002	VTC 2002-Spring	Birmingham, AL	mailto:jacksonP2@bek.com
16-21 June 2002	APS International Symposium / URSI Radio Science Meeting	San Antonio, TX	http://www.ieeeaps.org/2002APSURSI/
24-28 September 2002	VTC 2002-Fall	Victoria, BC	mailto:bhargava@engr.UVic.CA
Spring 2003	VTC 2003-Spring	Seoul, Korea	mailto:m.lewis@ieee.org

Conferences marked '✓' have open calls for papers as of 30 November 2000. 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.