Mazda Ultrasonic/Vision Sensing Fuzzy-Logic Obstacle Avoidance System

(See "Vehicular Electronics," page 14)
President’s Message
George McClure
President
IEEE Vehicular Technology Society

This issue of the Newsletter comes on the heels of the first-ever Vehicle Navigation and Information Systems (VNIS) conference, co-sponsored by the IEEE Vehicular Technology Society and the Canadian Department of Transportation and Ministry of Transport. The conference had 380 attendees, showing keen interest in the use of vehicular technologies for traffic management, vehicle tracking, and communications. Rye Case and his committee, together with Stuart Meyer and Bob French of the VTS Board, have our thanks for a superb job in producing this conference.

We plan for this conference to be held in the future alternating with Convergence. Thus the next VNIS conference will be held in 1991. The Southeast Michigan section is proposing to host it in Detroit.

The response to the Call for Papers for our 40th IEEE Vehicular Technology Conference, to be held in Orlando in May, 1990, was gratifying. Over 140 papers have been accepted for the technical program. Mark your calendar and plan to attend VTC'90, May 7-9.

The minutes of the Board of Governors meeting, found in this issue, reflect the growth in your Society’s activities. Preliminary contacts have been made that could lead to some future conferences outside North America. Mobile satellite communications is becoming a reality at the same time that the first generation cellular mobile telephone systems are reaching traffic saturation in some major markets and the standards for digital cellular are being established for the second generation systems. Highway information system demonstrations are planned in Europe, North America, and Japan. The use of “just-in-time” inventory delivery systems makes vehicle scheduling, tracking, and coordination more important than ever before, while congested roadways are used more effectively when the motorist receives advisory information on the best routes available to his destination.

Standards will be needed for the in-vehicle portions of these autoguide systems and that work is only beginning.

These are exciting times for VTS!

George McClure
1730 Shiloh Lane
Winter Park, FL 32789-5847 USA
(407) 356-3782

Newsletter Staff

Editor
A. Kent Johnson
Room 4E-324B
Bell Laboratories
Whippany, NJ 07981
(201) 386-6686

Staff

Chapter
Gaspar Messina
9800 Marguerite Dr.
Bethesda, MD 20817
(202) 653-5560

News
Vehicular
Electronics
TRW Inc.
4505 W. 26 Mile Road
Washington, MI 48094
(313) 781-7994

Editor
Dr. William J. Fleming
Vehicle Safety Systems Inc.
4505 W. 26 Mile Road
Washington, MI 48094
(313) 781-7994

Washington
Eric Schimmel
Electronic Industries Assoc.
2001 Eye Street, N.W.
Washington, D.C. 20004
(202) 457-4990

Transportation
Robert W. McKnight
8201 - 16th Street, Apt. 1221
Silver Spring, Maryland 20910
(301) 565-0928

Communications
J.R. Cruz
University of Oklahoma
School of Elec. Engineering
202 West Boyd, Room 219
Norman, Oklahoma 73019
(405) 325-4721

Professional
Frank E. Lord
GTE Government Systems Corp.
P.O. Box 7188
Mountain View, CA 94039
(415) 966-2602

Activities
William J. Minkey
University of Regina
Regina, Saskatchewan
S4S OA2
(306) 584-4096

Editor
A. Kent Johnson
Newsletter Editor

This issue of the Newsletter reports the events of a recently held meeting of the VTS Board of Governors. The meeting was held on September 14, 1989 at the King Edward Hotel in Toronto, Canada. It was held in conjunction with the first Vehicle Navigation and Information Systems (VNIS) conference sponsored by VTS and the Canadian Department of Transportation and Ministry of Transport. The conference was a big success. Details of the Board of Governors meeting are included in this Newsletter.

Plans are moving forward for the next VTS conference in Orlando in May of 1990. The response to the Call for Papers has been excellent and it looks like another fine conference coming up next year.

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<table>
<thead>
<tr>
<th>Month</th>
<th>Final Copy to be Rec’d By VTS Editor</th>
<th>Target Mailing Date</th>
</tr>
</thead>
<tbody>
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<td>February</td>
<td>12-29-90</td>
<td>1-31-90</td>
</tr>
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<td>3-10-90</td>
<td>4-14-90</td>
</tr>
<tr>
<td>August</td>
<td>6-9-90</td>
<td>7-14-90</td>
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<tr>
<td>November</td>
<td>9-15-90</td>
<td>10-13-90</td>
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</tbody>
</table>

*Inserts for newsletter staff editors should be received by newsletter editor at least one week before these dates.*
Society Officers and Board of Governors


NAME (Term thru)

J.R. Cruz (90)
Robert E. Fenton (91)
Arthur Goldsmith (90)
Leo M. Himmel (89)
A. Kent Johnsson (89)
Samuel A. Leslie (89)
Fred M. Link (89)
Roger Madden (90)
Robert A. Mrazek (91)
George F. McClure (90)
Samuel McConnell (89)
Stuart Meyer (91)
Evans B. Richardson (90)
Jesse E. Russell (91)
Raymond C. Trott (90)

RESPONSIBILITIES

Newsletter (Communications)
S. Past President/Planning
Con. & Bylaws Chairman
Chairman, Education Committee
Newsletter Editor
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National Site Selection
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Vehicular Electronics Liaison
President
Assoc. VP/Guidance Relations
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National Conference Chairman
Standards Chairman
Membership Chairman

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SOCIETY OFFICERS

PRESIDENT:

GEORGE F. MCCLURE
Martin Marietta
P.O. Box 5837, MP552
Orlando, FL 32855
(407) 356-3782

VICE PRESIDENT:

ROGER MADDEN
Federal Communications Comm.
2025 M St., N.W., Rm. 5202
Washington, DC 20554

SECRETARY:

JAMES M. SEARS
General Electric
Mountain View Road
Lynchburg, VA 24502
(804) 948-6105
(804) 525-6200 Home

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SAMUEL A. LESLIE
The Antenna Specialists Co.
99 Woodberry Lane
Lynchburg, VA 24502-4443
(804) 385-7800
(804) 525-7598 Home

A HISTORY OF LAND MOBILE RADIO

Stuart Meyer, consultant, Washington, DC
President's Room, Uncister, Carleton University
8 pm Tuesday, Dec 5, 1989, bar opens 7:30 pm.
Stu Meyer is a former President of IEEE VTS. He has spent all his career in land mobile radio; he will give a detailed, amusing illustrated talk on the development of land mobile radio in North America.

Evil Richards mailed a report of conference planning activities.

40th VTC Orlando, FL, May 7-9, 1990

George McClure, conference chairman, reported that conference will be held at the Sheraton Plaza. About 180 pages will be received for acceptance. Reviews will run three full days including 30 technical sessions. A maximum of 150 papers will be selected for presentation.


Sears will announce the conference plans. Jay Underwood is the conference chairman. The next committee meeting is planned for September.
Transportation is assisting with conference preparation.

1991 VTS Conference
The Toronto section has declined to sponsor the 1991 VTS Conference. A new potential future sponsor, Mark Kraze, Southeast Michigan, has expressed interest in the 1991 sponsorship. Bill Spritzer is considering chairmanship. Tentative thinking is October date.

44th VTC 1994
Bob Fenton reported that the VTS Swedish chapter is preparing to organize the 1994 conference in Sweden. Plans continue.

Convergence Conferences
Convergence 1990, October 12-17 - Bob Fenton reported that four meetings of the Convergence Executive Committee have been held. The targeted industries are Electronics in the Nineties – Solving the Challenges: Economy and Emissions, Security and Mobility, and Customer Expectations. The conference is scheduled to be held at the Dearborn, Hyatt Regency. Robert Mazzola is Conference Chairman. The '90 Conference banquet tentative speaker is President Bush. Banquet tickets are $50 each. Bob Fenton moved that two tables with 10 to 12 seats each be reserved for VTS directors and guests. Fred Link seconded the motion. The motion was unanimously approved. Roger Madden moved and Leo Himmel seconded a motion that VTS sponsor the luncheon. This also carried.

Convergence 1992, October 17-22, 1992 (VTS sponsored) is scheduled at the same location with Robert Mazzola serving as Conference Chairman.

Committee Reports
Nominations Committee
Since no nominations were made for new officers, the same officers were elected by acclamation to serve in 1990. George McClure President Robert Madden VP President San Leslie Treasurer

Land Transportation
Linda Sue Boeher reported that the 1990 conference is proceeding on schedule with ASME leading. The call for papers is out. 1992 is an ASME lead year for the Joint Rail Conference. The ASME VTS will be the site. Land Transportation Division will attempt to coordinate with VTS conferences. VTS in the USA in 1991 has expanded meetings because their membership is not free to travel overseas.

Constitution and Bylaws
Art Goldsmith reported that ballots for the revised constitution closed out August 25th and that the vote was overwhelmingly in favor of the changes. Roger Madden has done a first draft of the by-laws which will be presented to the members next.

Membership
Stuart Meyer reported that EIA standards are being upgraded to world class standards. The thrust is changing to methods of measurement and less on actual specification limitations. An ad has been placed in "Potentials" for prospective membership in VTS. Ray is also working on ways to promote Associate memberships.

Since the Director's meeting, the secretary has received word that Mr. Luther G. Schmidt, retired bell engineer and Fellow of IEEE deceased September 13, 1989.

Publicity
No report was available for the meeting. A chairperson is needed for this committee.

CCIP Representative
Eric Schimmel has been appointed as CCIP representative. No report was given.

USAB Engineering ESC
Thomas Stanley, was recently appointed as USAB Engineering ESC. A report was not available.

Transportation Electronics Fellowship and Noble Fellowship
Bob Fenton reported that the internationalism of the two Fellowships had been carefully studied by the Noble and Transportation Fellowship committees. Their recommendation is to retain the present organizational components and criteria, emphasizing that the Fellowships are awarded individually. The Fellowships are an international origin. To internationalize the Fellowships would require substantial increase in administrative resources. Also the evaluation of applications from foreign universities would be extremely difficult to execute objectively.

Arthur Goldsmith moved that the committee recommend that the Fellowships be extended beyond San Leslie and unanimously approved. The committee will continue to mail out applications for the Fellowships to the 235 Electronics Engineering departments in the USA and Canada.

Stuart Meyer is acting as committee chairman for the Noble Fellowship committee.

Chapter Activities
Stuart Meyer reported that he is working with Keith Reeke to start a VTS chapter in Ottawa.

Standards
Leo Himmel reported that the New York City Transit Authority has contacted his regarding the status of the IEEE standard 16-1955 on Electrical Control Apparatus for Locomotives. It was recommended by the IEEE to the committee to update the standard. Anyone who wants to be on the committee should contact Leo.
reorganization of TAB is anticipated. TAB Operations Committee is being replaced by TAB Administrative Council. Three associates are being named to interface with individual societies to establish signal communications with TAB. Several technical activities and publications have already moved from New York city to the new facilities in Piscataway, NJ. Minimum disruption of publications is anticipated due to the move.

NEXT MEETING
The next board meeting is scheduled for 9:00 AM Saturday, February 10, 1989, at the

Courtyard by Marriott Executive Park, 6023
Park Rd, Charlotte, NC.

ADJOURNMENT
The meeting was adjourned at 4PM.

Respectfully submitted,
Jim Sears, Secretary

San Francisco Bay VTS
Subject: FCC Update
By: Mr. Stuart Meyer, FCC Radio Consultant and former National Vehicular Technology Society President
Vienna, Virginia

Subject: The Lee 800 MHz Propagation Model
By: Dr. W. C. Y Lee
President PacTel Cellular Inc.

Subjects: Theory and Design Considerations for a Mobile Simulcast System
By: Mr. Dennis Cameron Quintron Corporation

Subject: Future High Capacity Public Safety Radio Technology
By: Mr. Chandos Rybinski, Chief Technical Officer LACE, INC

Subject: Toronto Vehicular Technology Society

Subject: Controlling The Electromagnetic Spectrum
By: Mr. Ralph Hally, Chief, Private Radio Bureau

Federal Communications Commission
Washington, D.C.

Subject: Review of Urban Rail Systems
By: Mr. Robert L. Banks
R.L. Banks, Inc.

Washington, D.C.

Subject: Theory and Design Considerations for a Mobile Simulcast System
By: Mr. Dennis Cameron Quintron Corporation

Subject: Future High Capacity Public Safety Radio Technology
By: Mr. Chandos Rybinski, Chief Technical Officer LACE, INC

Subject: Toronto Vehicular Technology Society

Subject: Cellular Communications and CanTel
By: Mr. Roger Keay, V.P. Engineering CanTel

40 Eglinton Avenue, E. Toronto, Ontario, Canada

 Held: April 12, 1989
Attendance: 15 (9 guests)

Gaspar Messina, Editor and Chapter Activities Chairman

IEEE Vehicular Technology Society Newsletter
November 1989

Transportation Systems

Bob McKnight
Transportation Systems Editor

Land Transportation Division chapter begins 9th year of monthly programs

The Washington Chapter of the Land Transportation Division of the Vehicular Technology Society begins its ninth year of monthly technical luncheon meetings in the Washington, DC area.

The first two of these meetings are on Sept. 22 and Oct. 10, 1989. The speakers and topics are:

- Sept. 22 - Robert M. Carter, Director, Electronic Communications Engineering, Conrail, will discuss hot box simulation techniques applied to the rail industry.

- Oct. 10 - George W. May, Vice President Research and Test, Association of American Railroads, will discuss railroad research and development.

Other topics covered in past meetings include:

- Advanced Train Control System project of US and Canadian railroads covering such aspects as radio communications, digital transmission, moving trains, and the central dispatch office.

- Channel tunnel now under construction between France and Great Britain.

- Train control service in several major North American areas.

- Automatic train control and train operation on heavy rail rapid transit lines.

- The future of light rail.

- Advanced Travel Control Systems, and its train management functions.

- Computer rail service in several major cities in the United States.

- Automatic train control and train operation on heavy rail rapid transit lines.

- The future of light rail.

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the location provided by transponders. The odometry and transponder systems are continuous and are not disrupted by each other to verify that both systems are operational. In the case where a transponder fails to be read- damaged or stolen, for example, the odometry system will indicate the new zone has been entered. (The identity of the new zone is known from information obtained from the previously read transponder). In this way, normal operation will continue.

When a new zone is entered, whether determined by the odometry system, the previously stored position is updated to include subsequent information as zone identification, length of zone (distance to the next transponder) and identification code for the following zone.

A computer (microprocessor) on board the locomotive processes the transponder information and transmits it via the digital radio to the central dispatch office. There a computer processes the information. In return the dispatch center computer will send the proper signal to the train. If the correct signal was not recognized the locomotive cab this information can be displayed as a conventional cab signal, or it can be text on a video display terminal. Upon receipt of the display takes in the cab is a user decision.

**Communications**

J. R. Cruz
Communications Editor

**ABSTRACTS**


When putting together 140 Mbits/s 16-ary quadrature amplitude modulated (QAM) radio-relays, and the appertaining total multiples/demultiplex equipment, different and even different bit error rates (BER's) have been measured at the primary low-level 64 kbits/outputs as compared to that one at 140 Mbits/s.

As a first step towards an explanation, we show that this "error multiplex effect" is mainly caused by the coding of signal points and, in addition, by hardware imperfections such as carrier and clock phase jitter, nonlinear regenerator threshold voltages, etc. We derive the mathematical tools necessary for calculation of the bit error structure at the modem output under optimum and nonoptimum receiver conditions. It is shown how the errors are distributed among the demultiplexer channels. QAM space diagrams of disturbed signals are used for calculation of the BER's in the subsystems. Some experimental results emphasize the fact that the multiplex equipment must not be excluded from design considerations for QAM modems. 16 and 64-QAM systems are compared with respect to their susceptibility to the error multiplex effect and a scrambling technique is proposed as a possible means to reduce the BER differences.


The lightweight, handheld portable can only be realized by either an unforeseen development in the power capacity of small size batteries or the use of very small cells (given that the power supply must be continuous on-chip). Power supply to the transceiver batteries. Not only do the smallness of cells open up the prospect of batteries that do not need to be recharged for weeks or solar cells that are charged continuously as with calculators, but it is the only means of realizing the high capacity mobile cellular systems of the future. A further spin-off is that the greatly reduced radiation levels are biologically safer. The discoures has focused on small cell systems, spacially overlaid by non-clustered clusters. Picocells are embedded as required to support mobile communications in special environments and in localities of intense teletraffic demand. The large cells will exist only in sparsely populated areas, and the mobile transceivers will be of the current "heavyweight" variety. There will be many different types of lightweight, handheld portables, from the "wrist watch" to the "checkbook" size. They will be capable of being connected to larger handheld units re- quired by specialist users. The checkbook size handheld tele- phone or another user outside of the piece of equipment from which the signal is transmitted can be used as a base station. The ISDN transceivers can be of different integrity (as measured in BER) and arranged in a TDMA format as described in the section "High Bit Rate Transmissions," or the ISDN services could be transmitted on different bands. If the mobile user only required speech, his portable would be very lightweight and inexpensive. For the mobile user who wishes to avail himself of the numerous services which may be transmitted on not only different frequency bands, but via different modulation methods—portable would be very complex and accordingly expensive.

We anticipate that all mobile services will convey the data in encrypted packetized format. The packets will be, in general, conveyed via optical fiber networks, although there may be a role for point-to-point, high frequency links such as those at 60 GHz [28]. The packetized data will be conveyed in the mobile via carrier frequencies generally below 4 GHz, although higher frequencies may be adopted [29]. Satellite services will only be necessary for mobiles in remote places.

To end this discourse, we offer a long-term view for communications to aircraft. Satellites cost tens of millions of dollars to put into orbit, have limited channel capacity, and introduce inherent long delay times in aeronautical communications. An alternative is to use the radar tracking of aircraft to facilitate high data rate ground/aerial transmis- sions of either voice or data. When the aircraft is in the ocean, unmanned maritime vessels (that provide maritime navigation aid), held on station by power generated from the waves, could form conical radio cells with a base, say, 50,000 ft and truncated at say, 20,000 ft. The vessels would be spaced with respect by some 350 miles and linked by a submarine optical LAN whose main teletraffic would be transatlantic. The vessels would send and receive high capacity data via radio, and to the moving "aircraft".
the symbol. Symbols adjacent in time cannot be detected independently and therefore the well-known quadratic ambiguities is not reduced. The TAP detector derived in this paper explicitly exploits the channel memory for carrier recovery. The derivation shows that the optimum carrier recovery under certain conditions, a Kalman filter. Some attractive properties of this carrier recovery hardware is discussed (including the fact that no timing reference is necessary) and the modulation schemes to carrier phase jitter are specified.


The percolation of a broadcast in a multihop network modeled by a spatial Poisson process is studied. The effect of station density and transmission radius on the extent of broadcast percolation is examined. For broadcast percolation in the stationary dimensionless up to a more limited percolation approach to local exchange network distribution and intelligence could readily and economically provide the extensive infrastructure need for such a widespread low-power system. It should be recognized that two separate radio systems are required to serve the different needs of high-power vehicular users and low-power handheld personal users, and that two separate blocks of frequencies must be assigned. A worldwide (or perhaps worldwide) radio system plan is needed to permit the use of any low-power handheld voice and/or data set anywhere. The plan should recognize the enormous economic and service advantages of a network solution for personal portable radio, which would provide for a standardized system with nationwide or even worldwide compatibility, and which would utilize the existing network infrastructure to the greatest possible extent. While people seldom take their automobiles with them on transcontinental travel, packet radio telephones would be useful in such far-reaching travel. Thus, worldwide standardization appears to be a logical step in the evolution of public wireless communications systems than for high-power vehicular systems. Modern technology can provide truly ubiquitous, worldwide, exchangeable voice and data communications, when and if the electropolitic and regulatory hurdles can be overcome.


Carrier phase synchronisation is a major problem for coherent data communication using non-coherent-sampling fading channels due to the rapid fluctuations on these channels. This paper examines a method of optimal carrier recovery and detection in the following way. First, the optimal receiver is derived for digitally phase modulated signals when transmitted on an ideal coherent fading channel with memory. The memory results from the fact that usually the coherency time of the channel is larger than the symbol period. Symbols adjacent in time cannot be detected independently and therefore the well-known quadratic ambiguities is not reduced. The TAP detector derived in this paper explicitly exploits the channel memory for carrier recovery. The derivation shows that the optimum carrier recovery under certain conditions, a Kalman filter. Some attractive properties of this carrier recovery hardware is discussed (including the fact that no timing reference is necessary) and the modulation schemes to carrier phase jitter are specified. You Say What?

I said, "Don't you know someone deserving of the Avant Garde Award?"

What's an Avant Garde, you say? Webster's New Collegiate Dictionary defines it as:

"in any art, the most daring of the experimentalists and innovators, who work in unconventional designs, ideas, or techniques during a particular period."

It is: the design of an award of the Vehicular Technology Society in recognition of those who, for their pioneering, leadership, and continuing involvement in promoting new technology in the field of vehicular communications and electronics.

The Vehicular Technology Society Award. Surely, you know the Society who is deserving of the recognition of being a member of the Avant Garde. So why not a few minutes and complete and mail the form enclosed with this Newsletter.

The Avant Garde Committee Dr. Arthur Goldsmith Mr. Robert Marcus Mr. Sam McConochie, Chairman
COMPARISON OF SENSOR TECHNOLOGIES USED IN INTELLIGENT VEHICLE/HIGHWAY PROGRAMS

During the past few months, many different types of sensor technologies have been proposed for use in intelligent vehicle/highway programs. A summary of these technologies is provided here.

<table>
<thead>
<tr>
<th>Sensor Technology</th>
<th>Application(s)</th>
<th>Under Investigation By</th>
<th>[Ref.]</th>
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<tbody>
<tr>
<td>millimeter-wave radar</td>
<td>vehicle station-keeping (cruise control), and braking</td>
<td>Radar Control Systems, San Diego; and University of California, Berkeley, CA</td>
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<tr>
<td>infrared scanning</td>
<td>high-speed vehicle station keeping, and for enhanced night vision</td>
<td>University of California, Berkeley, CA; General Motors Hughes Electronics</td>
<td>[1,5]</td>
</tr>
<tr>
<td>low-frequency embedded wire 10-kHz radio signals in roadway magnetic rails embedded in roadway</td>
<td>vehicle self guidance and use of narrower traffic lanes</td>
<td>Caltrans Laboratories</td>
<td>[1]</td>
</tr>
<tr>
<td>ultrasonic sonar</td>
<td>vehicle guidance and coded roadway information; blind-spot vehicle detection during lane changes</td>
<td>University of California, Berkeley, CA; Computer Sciences Inc., Irvine, CA; Indian Valley Manufacturing, Telford, PA; BATU Inc., Indianapolis, IN; Polaroid Corp; Martin Marietta, DARPA, and University of Michigan-ERIM</td>
<td>[1,4,9]</td>
</tr>
<tr>
<td>scanning laser beams</td>
<td>autonomous land vehicle (ALV), automated vehicle control</td>
<td>Martin Marietta, DARPA, and University of Michigan-ERIM</td>
<td>[2]</td>
</tr>
<tr>
<td>ultrasonic sensor, vision, and Fuzzy logic optical-fiber remote vision</td>
<td>vehicle obstacle avoidance and real-time autonomous navigation</td>
<td>Mazda Motor Corporation, Technical Research Center, Ann Arbor, MI; Clarion-Nissan, Lausanne, CA; Schott Fiber Optics, Southbridge, MA</td>
<td>[3]</td>
</tr>
<tr>
<td>video (vision) sensor</td>
<td>precise lane guidance, crash avoidance, and future automatic vehicle control</td>
<td>General Motors-Teledyne Vehicle Systems Development; Electro-Technical Lab, Tokyo; Univ of Maryland; Nippondenso, and Volkswagen R&amp;D</td>
<td>[8]</td>
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</tbody>
</table>

Mazda Ultrasonic/Vision Sensing Fuzzy-Logic Obstacle Avoidance System [3]

[Editor's note: Although the deadline for submission of abstracts has passed for the following call for papers, we wanted to include it for your information.]

IEEE Vehicular Technology Society
Land Transportation Division

CALL FOR PAPERS
IEEE VEHICLE TECHNOLOGY CONFERENCE
May 7-9, 1989
Orlando, Florida

The Land Transportation Division of the IEEE Vehicular Technology Society is accepting abstracts for technical papers to be considered for presentation and discussion at this conference.

Papers which review topics of current interest in the areas of system design, hardware development, and transportation technology advances with the aim to improve the operation of rail and ground systems, and increase their cost-effectiveness, are being sought. Topics can include:

- Conventional systems
- Traffic Monitoring
- Vehicle Location
- Electronic Controls
- Electromagnetic Compatibility
- Highway Management

Authors are requested to submit five copies of the abstract for their proposed paper by September 30, 1989 to:
Roger N. Avrey
Meetings Chairman, Land Transportation Committee
Manager Systems Engineering
15 Translead Systems, Inc.
1059 Broad Street
Bloomfield, NJ 07003

Selected papers will be published in an IEEE "Authors RM®" format by December 1, 1989. For further information, call Roger Avrey at (201) 893-8486.

Call for Papers - IEEE Vehicular Technology Conference, May 7-9, 1989, Chicago, IL. The Land Transportation Division of the IEEE Vehicular Technology Society is accepting abstracts for technical papers on system design, hardware development, and transportation technology advances to be considered for presentation and discussion at this conference.

Authors are requested to submit five copies of the abstract for their proposed paper by September 30, 1989. Selected papers are to be submitted by December 1, 1989. For further information, contact Roger Avrey, 15 Translead Systems, Inc., 1059 Broad Street, Bloomfield, NJ 07003. Telephone (201) 893-8486.
Professional Activities

PACE WORKSHOP REPORT

I participated in the annual PACE (Professional Activities Committees for Engineers) Workshop held on Labor Day weekend in Burlington, Vermont. The theme this year was "Engineering in the Public Eye". Among the participants were several of our VTS colleagues including President George McClure, Art Goldsmith, Director of Division VI, Hal Bloomberg and Bill Whipple. In a session on "Pensions, Early Retirement and Age Discrimination," George McClure gave a presentation on "Understanding your Pension". Later he led a training session on the same subject. Bill Whipple chaired a session on Employment Matters as well as leading a discussion on 'How to Run a Career Assessment and Planning Workshop that Results in Positive Commitments toward Setting and Meeting Individual Goals.'

The morning before the PACE Workshop got underway, I participated in a meeting of the PACE Divisional Activities Committee (PACE/DAC), that segment of the PACE organization that couples the interests of the Divisions and Societies with the responsibilities of the United States Activities Board (USAB). In keeping with the fact that there are many facets to our professional lives, the institute is a multi-dimensional matrix organization. Two of the dimensions are technical and professional. The technical structure includes all the specialties represented by the more than thirty five Societies. The professional dimension includes our interfaces with government and other entities of American Society, as well as our attention to career related factors. The PACE Divisional Activities Committee under the leadership of Jim Strother has recently been experiencing an increased level of activity in promoting greater participation with the Societies including work on funded projects. PACE/DAC also had a significant role in the planning and presentation of this year's PACE Workshop.

One of the major topics of the Workshop was the proposed restructuring of the volunteer organization of the Institute. Originally scheduled as a presentation and discussion of one hour by USAB Chairman Dr. Ed Bertolli, interest was such that additional meetings were arranged. Wally Reed, one of the candidates for President-Elect of the Institute, was a prominent participant in these sessions because of his extensive work on the proposed concept. The proposal was presented in rather general terms and it was stated that details would be worked on over a period of time that would be a year or more. Every detail will have consequences that we will have to live with for some time. Consequently, careful study and comment by all members was solicited. For the time being you can obtain additional information from page 16 of the August 28, 1989 issue of Electronic Engineering Times, and pages 1 and 7 of the October 1989 issue of The Institute. The latter specifically requests your comments.

Theme presentations were given as luncheon talks. Ed Bertolli spoke on "Our Image as Engineers: Should We Change Our Name". Dr. Bertolli suggested that the unfortunate quirk of English that relates the word for a type of machine with the word that describes the people that translate scientific principles into systems and devices that serve man may contribute to our unclear image in the eyes of the public. Other languages including Latin and most of those derived from it do not have this undesirable feature.

On the second day, Dr. Bruce Lewenstein, Assistant Professor in the Communication Department of Cornell University, spoke on "Frankenstein or Wizard: Images of Engineers in the Mass Media". With specific examples from various media, Dr. Lewenstein has studied the subject extensively and interested members would find his related articles worthwhile.

The IEEE-USA Legislative Agenda, Industry Outlook, Employment Matters and our Observatory of National Engineers' Week 1990 were topics that rounded out the PACE Workshop. Considerable concern was voiced from the floor about some of the Engineers Week publicity material prepared by some other participating societies that made sweeping statements about anticipated engineering shortages. These statements do not agree with the results of our Institute's studies and we are now attempting to eliminate the introduction of such questionable ideas into what is supposed to be a celebration of the accomplishments of engineers.

Members desiring further information of any of the Workshop topics may contact the IEEE-USA office, 1111 19th Street N.W., Washington, D.C. 20035, phone (202) 785-0017. You may also contact your Group Chapter, Section or Society PACE Chairman.

RECOMMENDATION FOR VEHICULAR TECHNOLOGY SOCIETY AWARD

(See Awards Summary)

FIELD: [ ] Automotive Electronics
[ ] Mobile Communications
[ ] Transportation

1. NOMINEE:

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2. AWARD: [ ] Gold [ ] Silver [ ] Bronze [ ] Outstanding Service to VTS by Member [ ] Outstanding Service by Non-Member to VTS objectives [ ] Special Achievement in Advancing VTS Technology [ ] Certificate of Appreciation [ ] Honorary Life Member [ ] Other

3. NOMINATOR:

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Signature and date:

4. JUSTIFICATION FOR AWARD:

5. ACTION BY VTS AWARDS COMMITTEE:

Approved ___ Yes ___ No ____ RETURNED FOR ADDITIONAL JUSTIFICATION

Chairman Awards Committee Date

Mailing form to Chairman, IEEE VTS Awards and Recognition Committee

5/82
IEEE
Vehicular Technology Society
Land Transportation Division

CALL FOR PAPERS
ASME/IEEE JOINT RAILROAD CONFERENCE
April 17-19, 1990
Chicago, Illinois

The Land Transportation Division of the IEEE Vehicular Technology Society is seeking abstracts for technical papers to be considered for presentation and discussion at this conference.

Papers which review topics of current interest in the areas of system design, hardware development, and transportation technology advances with the aim to improve the operation of railroad and transit systems, and increase their cost-effectiveness, are being sought. Topics can include:

- AC and DC propulsion systems
- Electromagnetic compatibility
- Automation and microprocessor control
- Signal and communication system innovations
- Maintenance procedures, monitoring and fault detection
- Safety and assurance programs
- High speed transportation systems
- Magnetic levitated systems
- Transportation systems, the next generation
- People mover systems
- Traction electrification system alternatives
- Energy efficient systems and energy conservation methods
- New transit system starts
- Computer modeling and simulation of transportation systems

Authors are requested to submit five copies of the abstract for their proposed paper by September 30, 1989 to:

Roger M. Avery
Meetings Chairman, Land Transportation Committee
Manager Systems Engineering
LS Transit Systems, Inc.
1515 Broad Street
Bloomfield, NJ 07003

Selected papers are to be submitted on IEEE "Authors Kit" format by December 15, 1989. For further information, call Roger Avery at: (201) 893-2848.

Call for Papers: IEEE/ASME Joint Railroad Conference, April 17-19, 1990, Chicago, IL. The Land Transportation Division of the IEEE Vehicular Technology Society is seeking abstracts for technical papers on system design, hardware development, and transportation technology advances to be considered for presentation and discussion at this conference.

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Call for Papers


Sponsor: High Speed Ground Transportation (HSGT) Committee of ASCE's Urban Transportation Division

Background: High speed ground transportation (HSGT) systems are currently being actively considered or planned for in several U.S. corridors using technology developed overseas. HSGT systems must be planned and designed comprehensively and in a way that coordinates and integrates all elements, including track/guideway, bridges/viaducts, tunnels, vehicles, propulsion and control systems, electrification, signaling and communications. The interaction between vehicles and track/guideway is particularly important to plan and must be accurately predicted and controlled. Much research and testing has been conducting in overseas applications. Now that these systems are being considered for U.S. application, it is important for North American planners, designers, builders, and suppliers to become aware of the issues and tradeoffs involved in this field.

Session Purpose: To bring together mechanical and electrical engineers with expertise in HSGT vehicle design with civil engineers experienced in planning, designing and constructing track/guideway structures and foundations to address the interaction between HSGT vehicles and permanent way.

Paper Topics: Multi-dynamic loadings of foundations; soil dynamics and vibration; aerodynamics of HSGT tunnels and structures; track/train dynamics; effect of guideway and catenary system design/maintenance standards on energy consumption, train performance and maintenance cost; noise and vibration mitigation measures in the design of HSGT systems; systems engineering considerations in the design of guideway and/or vehicle suspension systems; and HSGT design, operations, and maintenance experience (Europe and Japan).

Deadlines: September 30, 1989 for 500 word abstract. Authors will be notified by October 30, 1989 as to acceptance, and papers will be due by January 15, 1990 for publication prior to the conference.

Contacts: Send abstracts to Mr. John A. Harrison, Parsons Brinckerhoff Quade & Douglas, Inc., 26 Journal Square, 14th floor, Jersey City, NJ 07306; tel. (201) 656-1600. For other information on the ASME/IEEE conference, contact Mr. John Penwani of AAR at (312) 567-3601.