Vol. 1, No. 3, October 1999

In This Issue

Council News
- From the Editor .............................................. 3
- Summary of IEEE ITS Executive Committee Meeting,
  October 7, 1999 .............................................. 3
- Calendar of Council Events ................................. 5
- CFP: IEEE Transactions on Intelligent Transportation
  Systems ......................................................... 6
- Report on IEEE Transactions on Intelligent Transporta-
  tion Systems .................................................. 7
- Announcement for ITSC-2000 .............................. 8
- Announcement for IV-2000 ................................. 9
- In Memoriam .................................................... 10
- Interview with Honda R&D's Head Engineer .......... 10

Non-Council ITS News ....................................... 12
- IEEE Standards Association ............................... 12
- CFP: Enhanced and Synthetic Vision 2000 ............ 14
- CFP: Computer-Aided Civil and Infrastructure Engi-
  neering ......................................................... 16

Contributors to This Issue
- Hojjat Adeli, Toshio Fukuda, Judy Gorman, Fumio Harashima,
  Emily Sopensky, Chip White

ITS Council Executive Committee
- President .............................................. Prof. Ümit Özgüner
  u.ozguner@ieee.org
- Vice President ................................. Dr. Ichiro Masaki
  i.masaki@ieee.org
- Secretary ................................. Ms. Emily Sopensky
  e.sopensky@ieee.org
- Treasurer .............................................. Prof. Richard Klafter
  r.klafter@ieee.org

ITS Council Committee Chairs
- Conferences and Meetings Comm. ......... Ichiro Masaki, i.masaki@ieee.org
- Finance Comm. ........................................... Rye Case, r.case@ieee.org
- Nominations and Appointments Comm. ... Daniel J. Dailey, d.dailey@ieee.org
- Publicity and Outreach Comm. ............ Robert French, r.french@ieee.org
- Long Term Planning Comm. ................. Charles Herget, c.herget@ieee.org

Information for contributors
- Announcements, feature articles, books and
  meetings reviews, opinions, letters to
  the editor, professional activities, abstracts
  of reports, and other material of interest to
  the ITS community is solicited.
  Please submit electronic material for con-
  sideration in any of the following formats:
  \LaTeX, plain ASCII, or Word, to the Edi-
  tor at a.broggi@ieee.org at least 1 month
  prior to the newsletter's distribution:

<table>
<thead>
<tr>
<th>Issue</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>December 1st</td>
</tr>
<tr>
<td>April</td>
<td>March 1st</td>
</tr>
<tr>
<td>July</td>
<td>June 1st</td>
</tr>
<tr>
<td>October</td>
<td>September 1st</td>
</tr>
</tbody>
</table>

Web Archive
All issues of this newsletter in both textual (plain ASCII) and
 graphical (PDF and PostScript) formats can be reached through
 the Council Web Site at: http://www.ieee.org/its

Electronic Newsletter Subscription
To obtain your free copy of this newsletter in your e-
 mail as soon as it is available, please send an e-mail to
majordomo@ITS.Univ.PV.IT with "subscribe itscnews" in the
 message body.

IEEE Information contained in this newsletter may be copied without permission provided that copies for direct
 commercial advantage are not made or distributed, and the title of the publication and its date appear on each copy.

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
THE
IEEE INTELLIGENT TRANSPORTATION SYSTEMS COUNCIL

<table>
<thead>
<tr>
<th>President:</th>
<th>Prof. Ümit Özgüner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dept. of Electrical Engineering</td>
</tr>
<tr>
<td></td>
<td>Ohio State University</td>
</tr>
<tr>
<td></td>
<td>2015 Neil Avenue</td>
</tr>
<tr>
<td></td>
<td>Columbus, OH 43210</td>
</tr>
<tr>
<td></td>
<td>(614) 292-5940 (O)</td>
</tr>
<tr>
<td></td>
<td>(614) 292-7596 (Fax)</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:u.ozguner@ieee.org">u.ozguner@ieee.org</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vice-President:</th>
<th>Dr. Ichiro Masaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room 38-107, MIT</td>
<td></td>
</tr>
<tr>
<td>50 Vassar Street</td>
<td></td>
</tr>
<tr>
<td>Cambridge, MA 02139</td>
<td></td>
</tr>
<tr>
<td>(617) 253-8532 (O)</td>
<td></td>
</tr>
<tr>
<td>(617) 259-7334 (Fax)</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:i.masaki@ieee.org">i.masaki@ieee.org</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secretary:</th>
<th>Ms. Emily Sopensky</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Iris Company</td>
<td></td>
</tr>
<tr>
<td>923 E. 39th Street</td>
<td></td>
</tr>
<tr>
<td>Austin, TX 78751</td>
<td></td>
</tr>
<tr>
<td>(512) 453-2484 (O)</td>
<td></td>
</tr>
<tr>
<td>(512) 452-8985 (Fax)</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:e.sopensky@ieee.org">e.sopensky@ieee.org</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treasurer:</th>
<th>Prof. Richard Klafer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temple University</td>
<td></td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td></td>
</tr>
<tr>
<td>(215) 204-4523 (O)</td>
<td></td>
</tr>
<tr>
<td>(215) 204-5960 (Fax)</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:r.klafer@ieee.org">r.klafer@ieee.org</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conferences and Meetings Committee:</th>
<th><a href="mailto:itsc99conf@ieee.org">itsc99conf@ieee.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ichiro Masaki, Chair</td>
<td>Masayoshi Aoki</td>
</tr>
<tr>
<td>Katsushi Ibuschi</td>
<td>Petros Ioannou</td>
</tr>
<tr>
<td>Yoichi Sato</td>
<td>Emily Sopensky</td>
</tr>
<tr>
<td>Shigeru Wako</td>
<td>Teruo Yamauchi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finance Committee:</th>
<th><a href="mailto:itsc99fin@ieee.org">itsc99fin@ieee.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Klafer, Chair</td>
<td>Kan Chaok</td>
</tr>
<tr>
<td>Dan Dailey</td>
<td>Myron Kayton</td>
</tr>
<tr>
<td>Emily Sopensky</td>
<td>Bill Scherer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nominations and Appointments Committee:</th>
<th><a href="mailto:itsc99na@ieee.org">itsc99na@ieee.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rye Case, Chair</td>
<td>Micha Avni</td>
</tr>
<tr>
<td>Toshio Fukuda</td>
<td>Ed Rezek</td>
</tr>
<tr>
<td>Tsunoe Takahashi</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Publications Committee:</th>
<th><a href="mailto:itsc99pubs@ieee.org">itsc99pubs@ieee.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dan Dailey, Chair</td>
<td>Chip White</td>
</tr>
<tr>
<td>Alberto Broggi</td>
<td>Rye Case</td>
</tr>
<tr>
<td>Dan Dailey</td>
<td>Toshio Fukuda</td>
</tr>
<tr>
<td>Richard Klafer</td>
<td>Bud Trapp</td>
</tr>
<tr>
<td>Emily Sopensky</td>
<td>Yilin Zhao</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standards Committee:</th>
<th><a href="mailto:itsc99stds@ieee.org">itsc99stds@ieee.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Gottschalk, Chair</td>
<td>Rye Case</td>
</tr>
<tr>
<td>Dan Dailey</td>
<td>Thomas M. Kurihara</td>
</tr>
<tr>
<td>Yilin Zhao</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Publicity and Outreach Committee:</th>
<th><a href="mailto:itspr@ieee.org">itspr@ieee.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Emily Sopensky, Chair</td>
<td>Dan Dailey</td>
</tr>
<tr>
<td>Robert French</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Long Term Planning Committee:</th>
<th><a href="mailto:itspr@ieee.org">itspr@ieee.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles Herget, Chair</td>
<td>Micha Avni</td>
</tr>
<tr>
<td>Tsunoe Takahashi</td>
<td>Rye Case</td>
</tr>
<tr>
<td>Toshio Fukuda</td>
<td>Myron Kayton</td>
</tr>
</tbody>
</table>

| World Congress Liaison:       | Chip White |

<table>
<thead>
<tr>
<th>Societies Representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace and Electronic Systems: ... Myron Kayton, Myron Greenbaum</td>
</tr>
<tr>
<td>Antennas and Propagation: .... Ronald J. Marleffa, Communications: .... Micha Avni, Lewis Sabounghi</td>
</tr>
<tr>
<td>Computer: ....................., Dan Dailey, Ted C. Giria</td>
</tr>
<tr>
<td>Consumer Electronics: ............, George Hanover</td>
</tr>
<tr>
<td>Control Systems: ...................., Charlie Herget, Petros Ioannou</td>
</tr>
<tr>
<td>Electromagnetic Compatibility: ............, Andy Drozd, Norm Vioretti</td>
</tr>
<tr>
<td>Electron Devices: ............, John Troxell, Krishna Shenai</td>
</tr>
<tr>
<td>Industrial Electronics: ............, Hideki Hashimoto</td>
</tr>
<tr>
<td>Instrumentation and Measurement: ............, J. Barry Oakes, Stan Booker</td>
</tr>
<tr>
<td>Microwave Theory and Techniques: ............, Ed Rezek, Richard A. Sparks</td>
</tr>
<tr>
<td>Power Electronics: ............, Seth Sanders, Dean Patterson</td>
</tr>
<tr>
<td>Professional Communication: ............, Mark Havelorn</td>
</tr>
<tr>
<td>Reliability: ...................., Bud Trapp, Bob Casper</td>
</tr>
<tr>
<td>Robotics and Automation: ............, Yilin Zhao, Anastasios G. Chassikos</td>
</tr>
<tr>
<td>Signal Processing: ............, James V. Krogmeier</td>
</tr>
<tr>
<td>Systems, Man and Cybernetics: Chip White, Bill Scherer</td>
</tr>
<tr>
<td>Vehicular Technology: E. Ryerson Case, Robert L. French</td>
</tr>
</tbody>
</table>

Page 2
COUNCIL NEWS

From the Editor
by Alberto Broggi

Dear ITS Researcher,

just back from IEEE ITSC’99, I begun working on the current issue of our Newsletter with news ideas and suggestions. One of these—maybe that you have already noticed—is the availability of this Newsletter also in HTML format. Therefore, besides the usual nice-looking Postscript and Adobe PDF graphical formats, that can be downloaded from the official IEEE.ORG site (http://www.ieee.org/itsc) and from http://www.ce.unipr.it/itsc (European mirror site containing the Newsletters only) the new hypertext format will reduce the problems of heavy load in distributing (and receiving!) each issue.

The HTML version is only 40-50 kbytes long and will hopefully cause no problems in case of slow Internet connection. Obviously also the textual —plain ASCII— version is still available.

To witness the great interest that ITS research is generating in the IEEE community, a new regular Department in a Computer Society magazine will be dedicated to our field. With the November-December 1999 issue, IEEE Intelligent Systems Magazine (http://computer.org/intelligent/), with the cooperation of the IEEE ITS Council, will start the publication of an ITS Department every issue.

I am sure that this new possibility, which I am honored to serve as Editor, will constitute a new, important window to the world for our research field.

The first issue will feature an article by Robert French on the evolution of ITSC.

Once again, I would like to encourage you to send me (by e-mail at a.broggi@ieee.org) your possible contributions and your suggestions to make our newsletter more and more interesting and better focused. Examples of solicited articles are: announcements, feature articles, books and meetings reviews, opinions, letters to the editor, professional activities, abstracts of reports.

Summary of IEEE ITS Executive Committee Meeting
October 7, 1999 Waseda University, Tokyo, Japan

by Emily Sopensky

Intelligent Transportation Systems Council
October 7, 1999 Waseda University, Tokyo, JAPAN

Present: Ozguner, Ozguner, Klafter, Sopensky, Masaki

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC. Page 3
Guests: Dan Dailey, Hideki Hashimoto, Alberto Broggi

**Status of publications: Dailey & Broggi**

Dailey reports that the transactions are on track for a March 2000 rollout. Note: We are on the IEEE order form as a periodical.

**Newsletter Status.** Broggi is preparing the third quarterly and will distribute it to the same that received the first quarterly. 2nd issue was an announcement about availability. The 3rd quarterly will be a text version with links.

**Magazines.** Broggi reports that the Computer Science Intelligent Systems magazine will have a column on ITS column, which the Council will have a role in.

**Webpage.** Ozguner delegates his overseer role to the Pubs Chair.

**Finance: Klafter**

**ITSC99.** Difficult to determine exact numbers, but definitely in the black. Close to 400 registrants. A successful conference!

**Conference awards.** IEEE ITSC awards is a task the new Long Term Planning Committee will be investigating.

**Blue Ribbon Finance Panel.** Meeting with Klafter, Toshi Fukuda, Steve Yerkovich and Dick Saex (who are all sitting or former society presidents) to oversee the fledglingly Council’s financial direction will be held before the Council meeting in November.

The question is raised about the lack of strength in our mailing list. Broggi has obtained the list of those who registered and gave a paper at ITSC’99. But with 2:1, that leaves many without names and addresses in our databank.

**Changes to the constitutions & bylaws**

Sopensty reports that not all votes have been received. She will push those who have not responded next week and get constitutional changes on the TAB agenda.

**Constitution requires 2/3s majority (15). Bylaws require simple majority (11). Council has 22 currently (1 for each member society and Council officer).**

**Plans for November TAB meeting**

Get on TAB agenda for ratification of the revised constitution. By January we will have a VP of Finance, a VP of Publications, and a Past President, who will all be officers of the Council.

Ozguner wants to start staggered representation. (See Constitution article III, section 7 below.) He plans to send out renewal letters that request designation of terms so that reps will be staggered.

**ITSC Constitution.** Article III, Section 7: The term of office of a Member Society representative on the Council is two years, with each of the two Society representatives appointed in alternate years. Reappointment is at the discretion of the Society represented.

**ITEMS for the Nov. 13 AGENDA:**

- Discussion on committees structure and membership.
- Raising income.
- Election of VP of Publications.
- Report from committees.
- Establishing meetings for the following year.
Status of conferences


Meeting adjourned 6pm. Tokyo, Japan. Waseda University.

Calendar of Council Events

Council Meetings:

Next Meetings are scheduled as follows:

**Council Meetings:**

November 13, 1999 ...................... Little America Hotel, Salt Lake City, UT  
                      during the TAB Board series

June 22-25, 2000 ...................... Sheraton Wall Center Hotel, Vancouver, BC  
                      during the TAB Board series

**ITSC Officers Meetings:**

February 13, 2000 ...................... Inter-Continental Hotel, New Orleans, LA

**Other Meetings:**

October 1-5, 2000 ...................... Ritz-Carlton Hotel, Dearborn, Michigan, USA  
                      ITSC-2000 and IV-2000 Conferences
IEEE Transactions on Intelligent Transportation Systems

Call for Papers

The IEEE Intelligent Transportation Systems Council (ITSC) announces a new transactions journal, the IEEE Transactions on Intelligent Transportation Systems. The first quarterly issue will appear in March 2000.

Improved planning, design, management, and control of future transportation systems requires conducting both basic and applied research to expand the knowledge base on transportation. The new IEEE Transactions on ITS will focus on the design, analysis, and control of information technology as it is applied to transportation systems. Topics to be considered will include, but will not be limited to:

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

Transportation systems are usually large-scale in nature and are invariably geographically distributed. The complexity of transportation systems arises from many sources. Transportation systems can involve humans, vehicles, shipments, information technology, and the physical infrastructure— all interacting in complex ways. Many aspects of transportation systems are uncertain, dynamic and nonlinear, and such systems may be highly sensitive to perturbations. Controls can involve multiple agents that are distributed and hierarchical. Personnel who invariably play critical roles in a transportation system have a diversity of objectives and a wide range of skills and education.

Despite such complexity, the emergence of new technologies—such as sensors, communications, low-cost, faster computation, and new control and optimization algorithms—provides new opportunities to substantially improve efficiency, safety and environmental impact. With the use of these technologies, new and faster measurements are possible and more data can be managed and processed. Additionally, new strategies for management and control will be developed to deal with both the static and the dynamic nature of transportation systems. So, while most of the classical transportation problems raised in the past continue to exist, there now are new approaches with which to contend.

The intent of the IEEE Transactions on ITS will be to serve as a forum for the technological aspects of information technology to transportation, thus providing researchers with an outlet for publication.
For further publication guidelines, contact the editor at ccwiii@umich.edu or by call 734-764-5723. Please send five (5) copies of your manuscript for possible publication to:

Chelsea C. White, III, Editor
Department of Industrial and Operations Engineering, College of Engineering
University of Michigan
Ann Arbor, Michigan 48109-2117 USA

Report on IEEE Trans. on Intelligent Transportation Systems

by Chip White

IEEE Transactions on Intelligent Transportation Systems
Editor’s Report, 24 October 1999

There have been 19 manuscripts submitted as of 24 October 1999. The first issue of the IEEE Transactions on ITS is scheduled to be published in March of 2000. The current pool of Associate Editors is:

Alberto Broggi, Dipartimento di Informatica e Sistemistica Università di Pavia Italy
Ismail Chabini, Massachusetts Institute of Technology Cambridge, MA 02139-4307
Toshio Fukuda, Center for Cooperative Research in Advanced Science and Technology Nagoya University Japan
Randolph William Hall, 240 GER Industrial & Systems Engineering Department University of Southern California Los Angeles, CA 90089-0193
Hideki Hashimoto, Institute of Industrial Sciences University of Tokyo Japan
Petros Ioannou, Center for Advanced Transportation Technologies University of Southern California Los Angeles, CA 90089
Yili Liu, Department of Industrial and Operations Engineering University of Michigan Ann Arbor, MI 48109-2117
Hani S. Mahmoudi, Department of Civil Engineering The University of Texas at Austin Austin, TX 78712-1076
Ichiro Masaki, Massachusetts Institute of Technology Cambridge, MA 02139
Umit Ozguner, Automatic Control Dept. of Electrical Engineering Ohio State University Columbus, OH 43210
William T. Scherer, Department of Systems Engineering University of Virginia Charlottesville, VA 22903
Shoichi Washino, Industrial Electronics & Systems Lab. Mitsubishi Electric Corp. Japan
Yilin Zhao, Motorola, Inc. Libertyville, IL 60048
Preliminary Announcement for ITSC-2000
by Toshio Fukuda

ITSC 2000
The 3rd Annual IEEE Conference on Intelligent Transportation Systems
The Ritz-Carlton Hotel, Dearborn, MI, USA
October 1-3, 2000

The IEEE Intelligent Transportation System (ITS) Council is sponsoring a professional-level conference on basic research and present and future application of leading-edge advances in communications, computers, control and related electronics-based technologies to Intelligent Transportation Systems (ITS).

The IEEE Intelligent Vehicles Symposium (IEEE IV) will be held at the same location on Oct. 4-5, 2000, and a single ‘reduced rate’ registration option will be available for both Conferences, as well as individual registrations.

- Paper submission deadline ................ March 1, 2000
- Notification of acceptance .................. May 1, 2000
- Camera-ready copy due ..................... July 1, 2000

All Correspondences should be addressed to:

Prof. Toshiio Fukuda, General Chair, ITSC-2000
Center for Cooperative Research in Advanced Science and Technology
Nagoya University
Furo-cho, Chikusa-ku, Nagoya 464-8603, JAPAN
Tel: +81-52-789-4478, Fax: +81-52-789-3909
E-mail: itsc2k@mein.nagoya-u.ac.jp

Conference Organizing Committee:

General Chair: ............................ Prof. Toshiio Fukuda, Nagoya Univ.
Program Chair: ..................... Prof. Petros Ioannou, Univ. of South California
Treasurer: ............................... Prof. Richard Klafter, Temple Univ.
Local Arrangement Chair: ................ Prof. Ka C. Cheok, Oakland Univ.
Tutorial/Workshop Chair: ............ Prof. Daniel Daley, Univ. of Washington
Publicity Chair: ...................... Prof. Alberto Broggi, Univ. of Pavia
Conference Secretary: .................. Dr. Hidenori Ishihara, Nagoya Univ.
Preliminary Announcement for IV-2000

by Alberto Broggi

IV 2000
IEEE Intelligent Vehicles Symposium 2000
The Ritz-Carlton Hotel, Dearborn, MI, USA
October 4-5, 2000

The Intelligent Vehicles Symposium, sponsored by the IEEE Intelligent Transportation System Council (ITSC), deals with research on applications for Intelligent Vehicles and Intelligent Infrastructures. It is characterized by a single session format so that all the attendees remain in a single room for multilateral communications in an informal atmosphere. As another tradition, the meetings have enthusiastic participation from industry, as well as research centers and universities.

The IEEE Conference on Intelligent Transportation Systems (ITS) will be held at the same location on Oct. 1-3, 2000, and a single-reduced rate registration option will be available for both Conferences, as well as individual registrations.

Papers due for peer review ....................... March 1, 2000
Notification of acceptance ........................ May 1, 2000
Camera-ready copy for proceedings due ........... July 1, 2000

Please refer frequently to the conference website http://www.ce.unipr.it/iv2000 for the most up-to-date information, or contact the General Chair (Jim Rillings, jrilling@notes.gm.com) or the Program Chair (Alberto Broggi, broggi@dis.unipv.it).

Conference Organizing Committee:

General Chair: ......................... Jim Rillings, General Motors (USA)
Program Chair: ....................... Alberto Broggi, University of Pavia (Italy)
Program Co-Chairs: .. Richard Bishop, Richard Bishop Consulting (USA)
Katsu Ikeuchi, University of Tokyo (Japan)
Michel Parent, INRIA (France)
Advisory Chair: ......................... Ichiro Masaki, MIT (USA)
Publicity Chair: ...................... Alessandra Fascioli, University of Parma (Italy)
Treasurer: ......................... Richard Klafter, Temple University (USA)
In Memoriam
by Fumio Harashima

With great regret we announce the death of Mr. Shigeo Wako, ITSC’99 General Chair. He died of cancer on 18 May, 1999. His notable contribution to the field of ITS and his able leadership won him respect both nationally and internationally. We shall always remember him, not only as a scientist but as a friend and for his humanity.

Fumio Harashima
ITSC’99 Organizing Chair

Interview with Honda R&D’s Head Engineer
by Emily Sopensky

Honda R&D’s Head Engineer is ”Interviewed” by IEEE ITS Council Secretary

October 8, 1999, Tokyo Japan. The ITSC’99 has just concluded and I am honored to be dining with Tsuno Takahashi, executive chief engineer, Honda R&D Co. The occasion is an interview for this newsletter. As he assigns me the seat of honor at the table for two, I whip out my pen, notebook and microphone and shoot him a question on R&D in true reporter fashion. Takahashi smiles politely as he tells me that his English is much better after some sake. Understanding his professional ”shyness,” I assure him that this a friendly interview. The sake flows as does the conversation, but not necessarily answers to my ”hard-hitting” questions. This is what I learned.

Takahashi, who spent two years at the Honda plant in Marysville, Ohio, now reports to work at the Wako Research Center. In 1972 he graduated with a degree in electrical engineering from Osaka University. His research in navigation has taken him back and forth across the Pacific numerous times and has involved him not only with Honda, but also with international consortiums and the Japanese government. During the last ten years, he has been specifically interested in navigation information systems.

In 1975, when he came to the U.S. to do some research, he had his first margarita in Newport Beach, California. The bartender had to wake him up after he drank his third. But he still loves them. I watched him drink one two nights earlier. So somewhere he learned how to drink margaritas. I also learned that he turned 52 the following week.

Takahashi’s interest in the pursuit of research and development in ITS and the success of IEEE in ITS matters is backed by Honda’s long history as an independent-thinking, research-based company. In 1975, Honda R&D established it’s first facility in the U.S. Two days before our interview, Honda announced that it had joined the California Fuel Cell Partnership. Established in April 1999, the partnership includes other auto manufacturers DaimlerChrysler, Ford, and Volkswagen as well as energy providers ARCO, Shell, and Texaco, and fuel-cell maker Ballard Power Systems and State of California (California Air Resources Board and the California Energy Commission). The Partnership was established to demonstrate the potential of
fuel-cell technology, identify issues regarding potential fuels and fueling infrastructure and to increase public awareness of fuel-cell technology.

In December 1999, Honda fans and environmentalists will get a chance buy an Insight, the first hybrid gasoline-electric car to be sold in the U.S. It will be the most fuel-efficient car available in the U.S. (EPA city/highway ratings of 61/70 mpg) and will also meet California's Ultra Low-Emission Vehicle standard. In addition, more than 85 percent of the vehicles it sells during the 2000 Model Year will be equipped with advanced low-emission technology.
IEEE Standards Association (IEEE-SA)-Year One
by Judy Gorman

Members of IEEE’s Technical Societies rightly have been anxious to know more about the IEEE-SA. We are well into the second year and are better positioned to assess its accomplishments, unresolved issues, and future challenges.

When the SA was launched, our promises to you included: 1) an election of the governing body, 2) expanded opportunities for standards development under the Standards Board, and 3) even further standardization opportunities outside of the Standards Board. How did we do?

We’ve given IEEE-SA members a voice in the governance.

The IEEE-SA Board of Governors (IEEE-SA BOG) developed an election process for its members-at-large and for the IEEE-SA President. This was approved by the IEEE Board of Directors in November 1998. Now members of the IEEE-SA can elect the members-at-large of the IEEE-SA BOG, and members of the IEEE-SA who are also IEEE members may elect the IEEE-SA President. The position of President-Elect was also created to allow for continuity of leadership.

The first elections will be held this year as part of the IEEE annual election process. IEEE-SA members will see their ballots in the fall.

Issues and challenges.

Some volunteer standards developers don’t see the value of being part of a constituency with the above-mentioned electoral privileges. The goal of an election is to bring forward individuals with leadership abilities, industry involvement, and strong interest and experience in the standards activities of the Institute. The more vested the interest, the better for the standards constituency.

IEEE standards developers have new voting options.

The Standards Board approved entity balloting (e.g., corporate balloting) as a part of the traditional IEEE standards consensus process. Remember, the IEEE-SA Bylaws include several new membership categories, such as company, government, and organization. Now, an IEEE committee can declare at the outset of its project (PAR) that it will proceed with a corporate-level ballot, as distinct from an individual-based ballot. IEEE hosts a broad range of standards programs, coming from diverse industry sectors. Now we have started to enable IEEE to embrace that diversity with options for proceeding rather than a “one size fits all” policy.

Issues and challenges.

1. There is strong interest in a mixed balloting process, which could include individuals and company representatives, as an example. The Standards Board is working on this during 1999.

2. Some IEEE standards developers have shown resistance to joining the SA (we have approximately 3500 individual members). The requirement for membership is directed toward the consensus ballot privilege. If you want to ballot, you must join the SA. However, if you want to work on the writing of the standard, you have no SA membership requirements. Our balloting statistics show an increase.
in activity, which indicates that overall, SA membership has not been a deterrent for that level of participation.

A new organization has been formed that allows IEEE to provide a full range of standards services to its members and their industries.

Over the last several years, we have been keenly aware of the proliferation of industry groups that have formed for the purpose of developing industry standards and running related programs. These groups formed because they found that the IEEE was not able to respond adequately and quickly enough to the market demands of their technologies. We had to ask ourselves, Why shouldn’t this work be done in the IEEE? These are IEEE technologies! And as a result the IEEE-SA developed the IEEE Industry Standards and Technology Organization (IEEE-ISTO), which was approved by the IEEE Board of Directors in November 1998 and launched on 1 January 1999.

The new organization’s goals complement the activities of the IEEE-SA. It provides a forum in which development processes and related activities can be tailored to the technology, market, and participants. It also offers support for industry-specific post-development activities, including marketing, certification, branding, and conformity assessment. The Medical Device Communications Industry Group is the first group to organize within the IEEE-ISTO. Several additional programs are expected as 1999 progresses.

Together, the IEEE-SA and the IEEE-ISTO enable the IEEE to offer industry an unprecedented level of choice through a complete menu of standards activities and services.

*Issues and challenges.*

1. IEEE’s ability to change its culture in its standards activities toward one that focuses on identifiably market-relevant initiatives.

2. The IEEE ISTO must provide proof of concept that it is functioning as a supplier to the Societies and the Standards board, not a competitor.

Our goals for this year include an aggressive globalization program, new product and service opportunities, and increased communication and improved relationships with the IEEE Technical Societies. We will keep you informed through this newsletter and other media, and we welcome your thoughts and comments.

Judy Gorman
Managing Director
IEEE Standards
CFP: Enhanced and Synthetic Vision 2000

by Jacques Verly

CALL FOR PAPERS - Abstract Due Date: 15 November 1999
SPIE, Orlando, 24-28 April 2000
ENHANCED AND SYNTHETIC VISION 2000

Conference Chair: Jacques G. Verly, MIT Lincoln Laboratory

Program Committee:

Andrew K. Barrow, Stanford University; Alberto Broggi, Universita
di Pavia (ITALY); Ernst D. Dickmanns, Univ. der Bundeswehr Ma
genchen (GERMANY); Peter Hecker, DLR (Germany); Thomas
J. Meitzler, U.S. Army Tank-Automotive and Armaments Command; Jeffrey D. Radke, Honeywell
Technology Ctr; Jens Schiefele, Darmstadt University of Technology (GERMANY); Harro von Viebahn,
VDV-Luftfahrzeugte Werk (GERMANY).

The focus of this conference is "situation awareness", for guidance, control, and navigation of air, land,
sea, and other vehicles, typically under poor visibility, such as in adverse-weather conditions or at night. Also
of interest are situation-awareness displays and related human factors (for manned vehicles) and automatic
scene understanding (for unmanned vehicles).

The term "Enhanced Vision (EV)" is now generally used when situation awareness is primarily achieved
through the use of imaging sensors, such as Low-Light-Level CCD, FLIR, MMW radar, PMMW camera,
etc. "Synthetic Vision (SV)" (although originally used in aviation to refer to what is now called EV)
currently designates situation-awareness systems that create a synthetic/graphical view of the environment
using database information and position/ attitude information (INS, GPS, etc). Future systems will probably
consist of a mix of EV and SV.

For aviation applications, papers are sought on all aspects of EV and SV, including imaging sensors,
2D/3D/4D displays, image-processing, computer-vision, databases, human factors, etc. Also sought are
papers describing the use of GPS for the creation of "tunnels in the sky" for all phases of flight. Papers on
other applications of GPS for aviation applications, particularly for landing and approach, are also sought,
whether or not an EV/SV connection presently exist.

For automotive applications, papers are thought in the area of "enhanced driving", where human vision
is enhanced primarily through inexpensive EV sensors and displays. Papers are also sought on all aspects
of autonomous driving (primarily on roads), whether in good or bad visibility, including road/lane following,
obstacle avoidance, etc. (To preserve the focus of the conference, papers on indoor robotics are not solicited.)

Papers on novel applications of EV/SV are also welcome, such as for rescue, surveillance, firefighting and
military operations through smoke and obscurants.

(Below, SV refers both to SV and EV.)

AVIATION APPLICATIONS:

- Past and current programs (e.g., ALG, APAI, AWARD, VERSATILE); lessons learned
- Airlines and pilots’ needs for, and views of, SVSs
- Benefits and economics of SVs
- SVS for manual and hands-off landing
- Error budgets for SVS-based autoland
SVS sensors: LLL CCD, FLIR, MMW radar, PMMW camera, etc
- Sensors' capabilities in haze, fog, rain, and snow
- Characterization of airport surfaces at MMW and low grazing angles
- Enhancement, geometric transformations, and feature extraction for SVS imagery
- Fusion of SVS images and/or features
- SVS displays (e.g., HUDs and HMDs)
- Electronic windows in windowless cockpits
- Line-drawing and photo-realistic displays
- 3D/4D Flight guidance displays (e.g., "tunnel in the sky")
- Matching of airport/runway/taxiway features
- Extraction of vehicle dynamics from image sequences (runway, carrier deck)
- Use of SVS measurements in flight management systems and autopilots
- Fully-autonomous, computer-vision-based approach and landing
- Approach/landing trajectory measurements by computer vision
- Simulation tools for SVS sensors
- Integration of SVSs in fixed-base and full-flight simulators
- Human factors and anthropo-technical evaluation of display and SVS technologies
- Integration of SVSs and IPAs (Intelligent Pilot Assistant)
- Validation and certification of SVSs
- SV for helicopters and tiltrotor aircraft (including wire detection)
- SV for landing on aircraft/helicopter carriers
- SV for hypersonic transports, e.g., in High Speed Research (HSR) program
- SV for Unmanned Air Vehicles (UAVs)
- SV for runway and taxiway following, obstacle detection (e.g., runway incursions)
- Terrain following and "Near-Off-Earth (NOE)" operations
- Night vision, including "color night vision"
- Detection of dangerous weather (microbursts, windshears, etc)
- Other vision-based Enhanced Situation Awareness Systems (ESAS)
- SVS databases (terrain, obstacles, navigation aids, airports); acquisition, generation, verification, certification, formats, real-time aspects
- All applications of GPS to aviation, with emphasis on approach, landing and "tunnels in the sky".
- SV/GPS synergism

**AUTOMOTIVE APPLICATIONS:**

- Equivalent of above topics for land vehicles
- "Enhanced driving" in poor visibility and at night
- Evaluation and integration of HUDs and HMDs
- Special headlights
- Vision-based guidance of unmanned vehicles
- Road/lane following, lane changing, obstacle detection/avoidance
- Description of research vehicles and major demonstrations
- Analysis of real-time constraints for vehicle driving
- Vehicle navigation in unknown outdoor environments.
- Integration of specialized hardware on vehicles.
- Legal aspects.
INSTRUCTIONS FOR SUBMITTING ABSTRACTS

All authors are strongly encouraged to submit their abstracts by the due date using the Web form located at URL: www.spie.org/info/or/

If World Wide Web access is not available, please choose only one of the following options:

1. E-MAIL each abstract separately to abstracts@spie.org in ASCII text (not encoded) format. IMPORTANT: to ensure receipt and proper processing, include only the following on the Subject line: OR04, VERLY

2. or MAIL three copies of each abstract to: AEROSENSE SPIE, P.O. Box 10, Bellingham, WA 98227-0010 USA Shipping Address: 1000 20th St, Bellingham, WA 98225 USA

3. or FAX one copy to SPIE at 360/647-1445. Send each abstract separately.

For more information, please contact SPIE at 360/676-3290 or Dr. Jacques G. Verly MIT Lincoln Laboratory, 244 Wood St., Lexington, MA 02420-9185 USA (781) 981-2581 ph, (781) 981-4094 fax, verly@LL.MIT.EDU

CFP: Computer-Aided Civil and Infrastructure Engineering

by Hojjat Adeli

CALL FOR PAPERS

Special issue of international journal of
Computer-Aided Civil and Infrastructure Engineering
Founded in 1986
Devoted to
Advanced Computer Technologies in Transportation Engineering

Issue 14:4, July 1999, of the international journal of Computer-Aided Civil and Infrastructure Engineering (CACAIE) is devoted to Intelligent Transportation Systems (Guest Editor: Prof. H. Mahmassani, University of Texas at Austin). Issue 14:5, September 1999, is devoted to Advanced Computers Technologies in Transportation Engineering (Guest Editor: Prof. R. Benekohal, University of Illinois at Urbana). Another special issue of CACAIE on the topic of Advanced Computers Technologies in Transportation Engineering is planned for publication in 2000. Original manuscripts presenting technological advances and leading research for the next millennium are of particular interest. Five copies of original unpublished manuscripts should be sent to

Professor Hojjat Adeli, Editor-in-Chief, CACAIE
Dept. of Civil and Environmental Engineering and Geodetic Science
The Ohio State University, 470 Hitchcock Hall, 2070 Neil Avenue

by May 1, 1999. For the sake of planning, if you intend to contribute please let the editor know as soon as possible.