



IEEE Intelligent Transportation Systems

Council



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FROM PRESIDENT OZGUNER...

It gives me great pleasure to have the opportunity to write for the first issue of our Council's Newsletter. Many, many dedicated individuals contributed to bring us here, where we are an IEEE Council with 18 participating societies, potentially reaching well over half of IEEE's individual members.

The list is long, but I would like to mention a few by name: Rye Case, who started the ball rolling and set the stage for the Council; Charles Herget, who helped the process and was the major force in initiating our efforts to publish a Transactions; Emily Sopensky, who was always there, always attending to all the details, and many more: Bob French, Dan Dailey, Lyle Saxton, Richard Klafter, Toshi Fukuda, Chip White, Ichiro Masaki, Alberto Broggi, who put together the ITSC Newsletter, and all the members of the Council's predecessor, the ITS Ad Hoc Committee. Each individual solved a problem, or accomplished something special for the Committee as it evolved into a Council. But even more, they were always there, lending support, giving advice. Thanks to all. To highlight just a few of last year's accomplishments—

- The Council was voted into existence by the IEEE, which approved our interest area, our Constitution and our Bylaws. You can find them on our web page. (Yes, we have one! Check it out at <www.ieee.org/its>.) IEEE also graciously donated funds to help launch our Transactions. We are very lucky that Prof. Chip White agreed to be editor.
- Our conference has become an annual event and is scheduled through 2001.
- A number of committees have been established and many individuals have agreed to participate.
- IEEE ITS standards activity has been initiated.
- An electronic newsletter was issued the same month that we officially came into existence.

IEEE relies heavily on volunteers. The ITS Council is no exception. Do participate. It is a way to contribute to your profession and to a very important new industry. You can meet individuals working on similar problems, participate in consensus building and move the boundaries of our area.

Feel free to send an e-mail to your society representative, to Council committee chairs, or to any of us. Tell us if you are interested. This is your ITS Council.



ITS COUNCIL FAQs

by Robert French, Publicity
Chair
r.french@ieee.org

Q: Why did IEEE feel the need to begin a council on ITS and when did it become official?

A: The roots of the ITS Council date back to 1993, when the Vehicular Technology Society, originator of the VNIS (Vehicular Navigation and Information Systems) conference series, proposed that a cross-cutting committee on ITS be formed. The resulting ITS Committee functioned to focus widely spread ITS interests of numerous IEEE societies. The committee also served as a single IEEE point of contact point. For example, one of the first activities of the IEEE ITS Committee was to present a special information session on ITS in the IEEE at the First ITS World Congress in 1994 held in Paris.

The IEEE ITS Ad Hoc Committee applied for council status. Membership still consists of participating societies, thus retaining

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ITS Council Officers & Editors



1999 President. As President of the Council's predecessor, the IEEE ITS Ad Hoc Committee, Prof. UMIT OZGUNER has been pivotal in guiding the formation and establishing the infrastructure of the Council. The chair of many conferences and meetings, he was Program Chair of the IEEE ITSC'97 conference.

He is a member of the Control Systems Society. ♦ In the acclaimed 1997 Automated Highway Demonstration in San Diego, Ozguner coordinated a team that successfully demonstrated radar- and vision-based guidance with three fully automated cars. ♦ A professor of electrical engineering at The Ohio State University, Ozguner is also the director of the Center for Intelligent Transportation Research. Prior to joining the University in 1981, he held research and teaching positions at IBM's T.J. Watson Research Center, the University of Toronto and Istanbul Technical University. His research areas include: ITS, decentralization and autonomy issues in large systems and applied automotive control. He is the author of over 250 scholarly publications.

1999 Past President. Long an advocate of ITS within the Vehicular Technology Society, RYERSON CASE was 1997 president of the Council's predecessor, the IEEE ITS Ad Hoc Committee. As president, he shepherded the first IEEE conference on ITS, ITSC'97. ♦ Case



spent 18 years at the Ontario Ministry of Transportation, where he managed an ITS R&D program before leaving in 1991 to form E.R. Case & Associates, a consulting firm specializing in ITS. Prior to joining the Ministry in 1973, Case worked for over 20 years in the aerospace and defense industries in Canada and the US. After 45 years as a control systems engineer, Case recently retired.



1999 Vice President. Active in establishing the Council's international ties and building its annual conference agenda, Dr. ICHIRO MASAKI was similarly involved with the ITS Ad Hoc Committee. He is the founding general chair of the IEEE Intelligent Vehicles Conference and a member

of the Industrial Electronics Society. ♦ At MIT, Dr. Masaki heads the Intelligent Transportation Research Center at the Microsystems Technology labs. Before coming to MIT, he worked at General Motors' research labs for 12 years.

1999 Treasurer. A member of the Robotics and Automation Society, Prof. RICHARD KLAFTER has years of experience with IEEE, society, and conference finances. He served as Finance Chair for the ITSC'97 Conference. ♦ Klafter is Professor of Electrical Engineering and Director of Graduate Studies at the College of Engineering, Temple



PRESIDENT. DR. UMIT OZGUNER, OHIO STATE UNIVERSITY.
VICE PRESIDENT. DR. ICHIRO MASAKI, MASSACHUSETTS INSTITUTE OF TECHNOLOGY.
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ITS WORLD CONGRESS LIAISON. DR. CHELSEA C. WHITE, III.

University. He is a 40-year academic veteran, having taught at Temple for 15 years, Drexel University for 17 years, and City College of New York for 8 years. ♦ Klafter has authored numerous publications, including the first comprehensive textbook in the area of robotics (*Robotic Engineering: An Integrated Approach*, Prentice-Hall). In addition, he established a robotics laboratory at both Drexel and Temple. Among his many awards, Klafter is a Fellow of the IEEE.



1999 Secretary. Bringing a professional writer's organizational and investigative skills to the Council, EMILY SOPENSKY was secretary/treasurer for the IEEE ITS Ad Hoc Committee and Publications Chair for the ITSC'97 Conference. She is a member of the Professional Communication Society.

♦ Through her Iris Company, Sopensky specializes in writing for and about businesses in emerging technologies, such as radio frequency identification and software development. Besides providing both marketing literature and documentation to technology firms, she writes regularly for publications such as *Texas Software News* and the *Austin Software Leader*. ♦ She is an award-winning author who has been published in numerous journals, newsletters, and technical conference proceedings.

Transactions Editor. Long involved with IEEE's ITS efforts, Prof.



CHELSEA C. WHITE, III brings to the ITS Council vast experience and prestige in the field of ITS. White was the first chair of the IEEE ITS Ad Hoc Committee when it was organized in 1993. A member of the Systems, Man and Cybernetics Society, White is also IEEE's liaison to the ITS World Congress. ♦ Besides being the editor of another ITS periodical, White has been editor advisor of at least five other leading research journals and has himself been published widely. His research interests are the control of finite stochastic systems and knowledge-based decision support systems. ♦ Prof. White is on the faculty of both University of Michigan's Departments of Industrial and Operations Engineering and of Electrical Engineering. Prior to returning to his alma mater to teach, White taught at the University of Virginia.



Newsletter Editor. Prof. ALBERTO BROGGI, member of the Computer Society, brings enthusiasm, energy, and ITS-related experience to the Council. He is the coordinator of the ARGO project that is developing the ARGO autonomous prototype vehicle. ♦ The author of more than 100 refereed papers,

he is actively involved in organizing scientific events and is on the editorial boards and program committees of many international journals and conferences. He has been guest editor on topics related to intelligent vehicles, computer vision applications, and computer architectures for real-time image processing. ♦ An associate professor of Artificial Intelligence at the Dipartimento di Informatica e Sistemistica, Università di Pavia, Italy, Broggi researches real-time computer vision.

...continued and strengthening its cross-cutting relationship with other IEEE entities. The IEEE technical activities board of directors agreed in June 1998 to establish the ITS Council on January 1, 1999.

Q: Who are the Council's members and its leaders?

A: Eighteen societies with interests in the field of ITS are members of the ITS Council. That's more than half the total number of IEEE societies and 60 percent of the IEEE membership. Each member society appoints two representatives to the Council. Those societies are:

- Aerospace & Electronic Systems
- Antennas & Propagation
- Communications
- Computer
- Consumer Electronics
- Control Systems
- Electromagnetic Compatibility
- Electron Devices
- Industrial Electronics
- Instrumentation & Measurement
- Microwave Theory & Techniques
- Power Electronics
- Professional Communication

- Reliability
- Robotics & Automation
- Signal Processing
- Systems, Man & Cybernetics
- Vehicular Technology

In the transitional year (1999), the officers are • President: Dr. Umit Ozguner, Ohio State University • Vice President: Dr. Ichiro Masaki, Massachusetts Institute of Technology • Secretary: Ms. Emily Sopensky, The Iris Company • Treasurer: Dr. Richard Klafater, Temple University.

Q: What are the Council's goals?

A: The purpose of the Council is to advance and coordinate work in the field of ITS within IEEE and in the name of IEEE within the ITS community. The scope of the Council's activities includes promoting, consolidating and coordinating ITS technical activities among IEEE entities, and providing a focus for cooperative activities. The Council's field of interest involves the theoretical, experimental, and operational aspects of electrical and electronics engineering and information technologies as applied to ITS.

Q: What actions will the

Council take to accomplish its goals?

A: At regular meetings of the Council, member society representatives exchange information and represent ITS activities within the IEEE. The Council also coordinates with ITS interests outside the IEEE. For example, the IEEE will sponsor technical sessions at the 1999 ITS World Congress in Toronto.

The Council continues the series of IEEE ITS conferences that was launched with ITSC'97, which was held in November 1997 in Boston. The first IEEE conference dedicated to ITS, it drew close to 500 engineers from corporations and governments around the world. The focus of this and future ITSC conferences is on cutting-edge electronics technologies and their applications for ITS. Tokyo is the site of the next ITSC conference in October 1999. Dearborn (MI) hosts the ITSC 2000 conference. The U.S. West Coast will be the site of the 2001 conference.

The Vehicular Technology Society VNIS conference has been subsumed by the new ITSC series. The IV (Intelligent Vehicles) conference originated by the Industrial Electronics Society is now co-spon-

sored by the new ITS Council.

Additional ITS Council actions include publication of a quarterly journal and a quarterly electronic newsletter. The first issue of the journal, *IEEE Transactions on Intelligent Transportation Systems*, is scheduled for March 2000. Dr. Chelsea C. White, III, Director of the ITS Research Center of Excellence at the University of Michigan, was appointed Editor. White was the first chair of the predecessor IEEE ITS Ad Hoc Committee when it was organized in 1993. A call for papers for the journal is posted at the Council's website: www.ieee.org/its. The first issue of the electronic newsletter came out January, 1999 with Dr. Alberto Broggi (University of Pavia, Italy) as editor.

Q: Assuming the ITS Council becomes a society within IEEE, what would that imply?

A: The ITS Council is needed as a mechanism for coordinating these widespread interests within the IEEE. To become another IEEE society would be counterproductive to the interdisciplinary nature of ITS.



ITS COUNCIL PUBLICATIONS

The first issue of the ITS Council's quarterly journal, *IEEE Transactions on Intelligent Transportation Systems*, is scheduled for March 2000. Dr. Chelsea C. White, III, Director of the ITS Research Center of Excellence at the University of Michigan, is editor. A call for papers is posted at the Council's website: www.ieee.org/its.

The first issue of the IEEE ITS Newsletter was distributed electronically by Dr. Alberto Broggi (University of Pavia, Italy) in January, 1999.

To subscribe, send email to: majordomo@its.UniPV.it with "subscribe itsnews" in the message body. Copies are available at the Council's website www.ieee.org/its.



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 is planned for March 2000.

Improved planning, design, management, and the control of future transportation systems requires conducting both basic and applied research to expand the knowledge base on transportation. The new IEEE Transactions 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 and invariably

geographically distributed. Such 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 highly sensitive to perturbations.

Despite such complexity, the emergence of new technologies—such as sensors, communications, low-cost, faster computation, and new control and optimization algorithms—provide 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 can be developed to deal with both the static and the dynamic nature of transportation systems.

The intent of the IEEE Transactions on ITS is to serve as a forum for the technological aspects of transportation systems, thus providing researchers with an outlet for publication for these new approaches. Please send five (5) copies of your manuscript for possible publication to:

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