



INTERFACE

SOCIETY FOR TECHNOLOGY IN ANESTHESIA

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STA Research Awards 1995 Annual Meeting Scottsdale, AZ

The purpose of this Society is the improvement of the quality of patient care by improving technology and its application. To this end, the STA Research Committee is chartered to promote and encourage quality research into technologies and their application that address high priority needs of the practice of anesthesia. As part of this activity, the Committee annually recognizes outstanding abstracts from our annual meeting and from the ASA annual meeting. Prior to each meeting the Committee selects the top two published abstracts in either of two categories: **Technology Innovation**, or **The Clinical Application of Technology**. The authors of these are presented with a special certificate recognizing theirs as **Outstanding Abstracts**.

This year, prior to our annual meeting in Scottsdale, the Research Committee reviewed a total of 46 excellent abstracts. After some difficult and contentious discussion, primarily due to the particularly high standard of the submitted work this year, two abstracts were chosen, both in the **Technology Innovation** category.

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Society for Technology in Anesthesia

Dwayne Westenskow, PhD
STA President

The Society for Technology in Anesthesia is now 6 yrs. old. The society has matured at an amazingly rapid rate and has survived two fiscal crises. Policies for nomination, tenure, and duties of the officers, board of directors, and working committees are now clearly set forth in the Administrative Manual (40-page), Guidelines for the Annual Meeting (33-page), and Bylaws (23-page). STA's committees (now 16 in number), provide the direction and manpower (over 60 individuals) to move STA forward in many directions.

Outwardly, STA's organization and accomplishments are impressive but more importantly, it is the membership from which the society derives its real strength. A quick look at STA's Membership Directory reveals that members come from very diverse backgrounds and that they are well recognized as the most innovative,

committed, and important leaders in the field of anesthesia technology. Through STA's annual meetings, the Journal of Clinical Monitoring and the Interface newsletter, members come in contact with leaders who have vision, influence, wisdom, innovative ideas, and a sense of the future. Very often I've heard friends say, they enjoy being part of STA because it's members are the leaders. This association is essential to our individual success, it's invigorating and educational. It is our hope that an STA colleague will make a comment that will put you on the right track towards greater success in your own work or practice. Your association with STA this year will undoubtedly result in new ideas, new direction, and new friends.

Many Thanks

Since January, STA has received donations from 20 individuals totaling about \$8,000. These donations have

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◆ International Activities

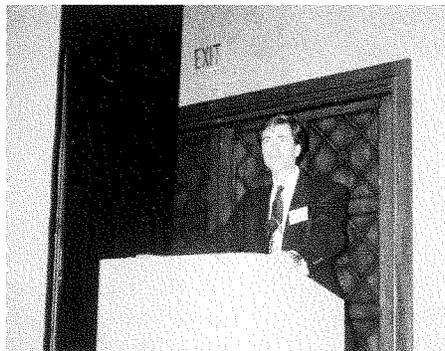
Europe: ESCTAIC '94 and '95

Japan: JSTAI '95

Sweden: ESCTAIC at SFAI

◆ ASA Plans 1995

◆ STA '96 - Register Now!



Incoming STA President, Dwayne Westenskow, offers welcoming remarks at the 1995 annual meeting.

STA Events Continue at ASA - 1995

The annual banquet of the Society for Technology in Anesthesia will be held this year on Sunday, October 22, 1995 in the Ballroom of the Atlanta Hilton and Towers. The guest speaker will be Dr. Richard M. Satava. Dr. Satava is a practicing general surgeon in the active duty Army Medical Corps and is currently assigned to General Surgery at Walter Reed Army Medical Center. He is also actively involved in research at the Advanced Research Projects Agency. He has been productive and successful in surgical education and surgical research with over 125 publications and book chapters in diverse areas of advanced surgical technology including Surgery in the Space Environment, Video and 3-D imaging, Telepresence Surgery and Virtual Reality Surgical Simulation. While striving to practice the complete discipline of surgery, he is aggressively pursuing the leading edge of advanced technologies to formulate the next generation of surgery and will no doubt have many insights regarding what our surgical colleagues will bring to the operating room in the future.

The Society for Technology in Anesthesia Breakfast Panel will be held on Wednesday, October 25, 1995. The society has put together an exciting and thought provoking panel this year. The title of the panel is Fire, Quake, Flood, Storm: Natural Disasters and the Anesthesiologist. The moderator of the panel is Dr. Alan W. Grogono from Tulane University School of Medicine. The members of the panel are Dr. Selma Calmes from University of California (Working after an Earthquake), Dr. Brian Craythorne from

University of Miami (Lessons from a Hurricane), Professor Wolfgang Dick from Mainz, Germany (Patient care during a Major Fire), and Dr. Robert Forbers from University of Iowa (Floods and Other Disaster). Each panel member will provide us, from the view point of the anesthesiologist, with their experiences and insight on handling a disaster created by mother nature. ♦

President's Message continued from page 13

been of tremendous help to partly recover from the very unfortunate mismanagement by Phoenix Corp. We can't thank you enough for your generosity. Because of these donations and careful limits on expenditures, the society is well on the way towards recovering from the crisis. Implementation of fiscal guidelines, policies and the commitment and sacrifice on the part of the office staff in Gainesville, have resulted in substantial savings in the way business is conducted. Additionally, receiving over 190 membership renewals in 1995, gives STA positive cash flow. From this experience, we've come to know that STA is filled with generous committed individuals to whom we are most grateful. As officers we will continue to do all we can to conduct the business of STA as inexpensively as possible.

Annual Meetings remain a Highlight

The '95 Annual Meeting in Phoenix was attended by 155 members. Forty five abstracts presented at the meeting, nearly equaled the high of 50 at the '92 Design in Anesthesia Workstation Meeting. Through meticulous management on the part of the two meeting organizers, the meeting broke even i.e., income equaled expenses.

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Interface Returns to Quarterly Publication

It has been 6 months since the last issue of Interface was published. The decision to publish only two issues this year was made at the annual meeting last January in Scottsdale. The primary motivation was to save funds in the aftermath of the fiscal crisis caused by our former management group. Now that the financial future of STA is more encouraging, we plan to return to a quarterly publication schedule beginning with the January '96 issue. ♦

Jeffrey M. Feldman
Editor

INTERFACE is the official newsletter of the Society for Technology in Anesthesia. The newsletter is published quarterly and mailed directly to the membership of the society. The editors invite suggestions, contributions and commentary about published items. Please send all correspondence to:

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The newsletter is printed on recycled (and recyclable) paper.

Electronic Conference debuts at 15th ISCAIC

*electronic
conferencing is
anonymous and
simultaneous
participation*

Accompanying the fresh breezes of spring in Philadelphia, the 15th ISCAIC was held from April 20 through 22. The conference was organized by Dr. Igal Nevo of Albert Einstein Medical Center. The central theme was Decision Making and several presentations and long discussions of this topic took place. In addition, there was an international representation in the audience and many other presentations on signal processing techniques and information systems. The content of the meeting was notable and the format broke new ground with the incorporation of electronic conferencing technology.

What is Electronic Conferencing?

As incorporated into the conference, this technology utilized a network of laptop computers with one computer for each member of the audience. This hardware implementation provided the possibility for each member of the audience to express ideas but it is the various software tools that breathe life to this approach and facilitate the exchange of ideas. A central concept of electronic conferencing is **anonymous and simultaneous** participation in the conference. A software feature called Topic Commenter allowed each member of the audience to post questions as the presentation was in progress. These questions were collected on another screen which could be viewed from any laptop. The session moderators were responsible for scanning the questions and assigning a priority. At the completion of each presentation, the question list was displayed via an overhead projector and the moderator would direct the presenter to higher priority questions. Presenters were asked to find time to respond to each

posting anonymous replies to the questions which were then collated by the system and displayed as the basis for oral discussion. The advantages are that everyone in the audience has an opportunity to express an opinion and these opinions are all archived and available for distribution at the end of the meeting.

The electronic conferencing technology is an excellent means to facilitate dialogue and ready archival of discussions. One can imagine how the future can bring conferences without borders where proceedings are available immediately afterward for distribution. ♦

—J. Feldman

STA Research Awards

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These two abstracts were awarded certificates at the STA Annual Meeting. These were:

I.M. Elfadel, PhD; W. Webber, MS; and S.J. Barker, PhD, MD: **Motion-Resistant Pulse Oximetry**. This abstract described a new approach to noise reduction in pulse oximetry that was shown by the experimental results presented to be highly effective. It was felt by the Committee that this innovation may permit the spread of the patient safety benefits of pulse oximetry into areas of patient care where the motion sensitivity of current products has prevented widespread adoption.

H.B. Gunnerson, MD; J.S. Palmer; W.D. Watkins, MD, PhD; A.L. Ziemba; D.K. Casey; D.P. Strum, MD; L.G. Vargas, PhD; and J.H. May, PhD: **Early Benefits from the Implementation of a Real Time Patient Tracking System for Surgical Patients**. This was a demonstration of an innovative "Real Time Patient Tracking System", that enables personnel in a large university hospital to track the movement of patients through the surgi-

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question via keyboard entry after their presentation and the answers to each question were compiled for distribution in the proceedings. There is no question that the anonymity and ability to enter questions throughout the presentation resulted in a large number of insightful questions and no one member of the audience monopolized the discussion. It was not as easy however to clarify questions that were not clear. The compilation of typewritten responses is a valuable method for archiving the content of the meeting that would not be otherwise available. Other software features were utilized to support discussion during the afternoon sessions of the meeting. A list of topics were assembled during the lunch break from the content of the questions and discussion during the morning session. Upon returning from break, these topics were displayed and each member of the audience voted on a number of topics for afternoon discussion. The conferencing system then automatically tabulated the votes and ranked them. The top chosen topics for discussion were quickly identified and set the program for the afternoon.

Brainstorming software was used to facilitate discussion of each topic. The moderators defined the discussion for each topic by posing a series of well directed questions. The audience would spend several minutes

Thursday, January 25		Friday, January 26		Saturday, January 27	
7:00-8:00	Continental Breakfast Exhibits and Demonstrations	7:00-8:00	Continental Breakfast Exhibits and Demonstrations	7:00-8:00	Continental Breakfast
8:00-5:00	Exhibits and Demonstrations	8:00-5:00	Exhibits and Demonstrations	8:00-10:00	Panel #5 "Airway Management in Technology in 2020" <i>J. Benumof, M.D.</i>
8:00	Opening Remarks <i>Deeyne Westenskow, PhD</i> <i>Allen K. Ream, M.D.</i>	8:00-8:30	Technical Papers Oral Presentations Poster Discussion/Presentations	10:00	Coffee Break
8:10-10:00	Panel #1 "Buying Equipment: How Do We Spend Our Limited Resources?" <i>Kevin Tremper, Ph.D., M.D.</i>	9:30-10:00	Coffee Break Exhibits and Demonstrations	10:00	Coffee Break
10:30	Coffee Break Exhibits and Demonstrations	10:00-12:00	Panel #3 "Inhalation versus Intravenous Anesthesia: The Great Debate." <i>T. Stanley, M.D., E. I. Eger, M.D.</i> <i>Moderator: P. Barash, M.D.</i>	10:00	Panel #6 "Date Access and Transfer, Virtual Reality, and Other New Technologies" <i>D. Wong, M.D., N. Shah, M.D.</i>
10:30-12:00	Technical Papers Oral Presentations	12:00-1:30	Lunch Mussofsky: "Pictures at an Exhibition" <i>Charles Brindis, MD</i> STA BUSINESS MEETING	12:15	Adjournment
12:00-1:15	Lunch	1:30-3:00	Panel #4 "Ethics & Technology: How Will They Interact?" <i>Ron Katz, M.D.</i>	12:00-1:30	Lunch
1:16-3:00	Panel #2 "Monitoring in 2020: What Can We Do, What Should We Do?" <i>John Seeringhaus, M.D.</i>	3:00-5:00	Field Trips Aircraft Carrier, Nuclear Submarine Mariner Air Traffic Control Balboa Naval Hospital	*Listed faculty are session chairs. Other speakers will be identified when the program is finalized.	
3:00-3:30	Coffee Break Exhibits & Demonstrations	7:00	STA Annual Dinner Guest Speaker: <i>David Hale, CEO, Gensta Inc.</i>		
3:30-6:00	Workshops "Publishing with the Internet: Surfing the Net with Grog" <i>Alan Crogo, M.D.</i>				
3:30-6:00	Technical Papers Oral Presentations Poster Discussion/Presentations				

SOCIETY FOR TECHNOLOGY IN ANESTHESIA
1996 Annual Meeting Preliminary Program
Hotel del Coronado, San Diego, California

Annual Meeting Activities

January 25-27, 1996

Friday Afternoon Tours and Sports Activities

Except as noted, cost of event is included in registration fee. Except as noted, these events begin at 2 p.m. and end by 5 p.m.

Options: must sign up for one with registration. You must also provide a second choice. All choices have limited registration and are first-come, first-served.

Some choices may be cancelled without prior notification.

1. Nuclear-powered Aircraft Carrier Tour (2 hour) Maximum 50 people. Dependent on carrier being in port. Can't confirm until 6 weeks prior.
2. Nuclear-powered Submarine Tour (2 hour, begins at 3 p.m.) Maximum 30 people. Dependent on submarine being in port. Can't confirm until 3 weeks prior.
3. Behind-the-Scenes Tour of the new San Diego Naval Hospital. (3 hour) Maximum 50 people.
4. Tour of the TRACON/Air Traffic Control Facility at Miramar Naval Air Station (3 hour) Maximum 30 people. Can't confirm until 6 weeks prior.
5. Round-Robin Tennis Tournament (3 hour) \$10 extra charge. Includes tournament director, prizes. Maximum 20 people.
6. Round-Robin Golf Tournament (3 hour/9 holes only) - \$40 extra charge (plus \$20 if club rental is required.) Includes green fees and cart, tournament director, prizes. Maximum 20 people.
7. Bicycle Tour of Coronado. Includes a guide. Maximum 50 people.

Spouse/Guest Program

Additional costs as noted.

Special Hotel-based Activities:

1. Marvelous Morning at the SPA.
Swedish body massage (1 hour=\$60), facial, Loofa Body Polish (1/2 hour=\$40), pedicure. Comprehensive price still being negotiated.
2. Tennis Lessons with certified professional - \$50 per hour
3. Nature Walk - \$10
4. Sailing Clinic - \$15
5. Guided Bicycle Tour of Coronado Island - \$20
6. Bay Tour - \$35
7. Surfing Lessons - Cost not yet known.

CIS-sponsored tours (Must have a minimum of 24 people to undertake the following tours.)

1. Behind-the scenes at San Diego Zoo (4 hours @ \$33 per person)
2. City Tour and One hour Harbor Cruise (4 hours @ \$23 per adult, \$18 per child)
3. Tijuana Shopping Tour (5 hours @ \$38), lunch included.
4. Balboa Park Museums including Old Globe Theatre Tour (5 hours @ \$39), lunch included.
5. Whale Watching Cruise (4 hours @ \$28)
6. La Jolla Tour and UCSD Aquarium (5 hours @ \$61), lunch included.

ASA/STA Dinner

Don't forget to register for our STA Dinner at the ASA. This year's dinner will be held *Sunday, October 22, 1995, at 6:30 p.m.* in the Atlanta Hilton Hotel. The speaker will be **Dr. Richard Satava** and the topic will be *"Telepresence Robotics and Virtual Reality in Medicine."* Registration is via the STA office at (904) 846-1298 or via e-mail at: davis.anest2@wpo.health.ufl.edu.

ESCTAIC '94 in Greece

ESCTAIC members were the guests of Alexandros Liolios last fall in Porto Carras, Greece at the 1994 annual meeting. Alexandros - many thanks from all your visitors for the magnificent venue.

I shall start my report about Porto Carras by paying tribute to the invaluable work carried out by Bernhard Pollwein in making the meeting the success that it was. It was exciting to go to the south of Europe for our annual meeting - a change in style from our previous meetings in Goldegg, with its 'anglo-saxon' tradition as one of the participants called it. The change meant that Bernhard had to organize a lot at a great distance, not only in another country but in another culture. We salute him for his success, the fruit of vast hard work. There was a very 'laid-back' feeling of the meeting, with a delightful afternoon clear for sun, sea and sport. But of course this was the background to some deep thinking and conversations. I cannot possibly cover everybody's papers and ideas, but will mention a few that made an impression on me.

I have to mention the contribution made by the team led by Sergei Arseniev from Russia. Mike Kiselev's 'Polyanalyst' program for examining relationships hidden in data provided a most interesting complement to the presentation of neural networks of Dwayne Westenskow. Dwayne gave a very absorbing introduction to neural networking that was much appreciated. I think both approaches have much to offer us. I know that Sergei made contact with a number of workers and we look forward to seeing the results of this collaboration at the next meeting.

We listened to fascinating papers from Benno Schwilk (Ulm) and Andy Tecklenburg (Hamburg) on critical incidents. My interest was sparked by the realization that the severity grading that we published from the working party (BJA Aug.94) is seen from the patient's point of view. Andy describes five viewpoints - patient, relatives,

doctors, nurses and administrators. Benno was using 'recovery room impact events', which are more doctor oriented. What he demonstrated was that the patient's preoperative condition, particularly respiratory disease and obesity, had a profound effect on the number of incidents - increasing them up to six fold. Fat chronic bronchitics are at high risk!

Bill Cole from Washington gave a very thought and discussion provoking paper on the presentation of data. We even had fun discussing his presentation! It was good to meet him and appreciate his insights into the realities of ergonomics in the industrial world.

ESCTAIC Reorganizes

There are a number of changes in the organization of the society. Schwab and Friends will no longer continue as our office, though Peter will continue as our 'pursuer' - collecting subscriptions. Bernhard Pollwein, as Secretary, will provide office functions from his department, and Richard Spitz will take over as treasurer from our long serving David Jones.

Wolfgang Koller is moving from his post of Meeting Secretary to assist Ilkka Kalli with the International Journal of Clinical Monitoring and Computing. He has been responsible for much of the success of the Goldegg meetings, and the March executive committee meetings in Igls, and we give him our sincere thanks and appreciation. Ilkka is working hard to raise the standard of the journal to make it indispensable reading for members as well as for everybody else interested in computing and technology in anaesthesia and intensive care.

Andre Dellerholm will have assistance from David Jones and Frank O'Connor in his superb work as editor of the newsletter.

Wolfgang Heinrichs continues to try to establish links with industry, and represents the European arm of the SCCCPMA, with Mark Bloom as the

US representative. Andy Tecklenburg will be responsible for the agendas of the congresses. At satellite meetings he will liaise with Gavin Kenny to provide speakers and chairmen.

Vincenzo Lanza, our new Meeting Secretary, is already well ahead organizing the next congress in Palermo. Together with Andy he is working on a scientific program that should be most exciting. See you in Italy! ♦

Alastair Lack

(Note: This article was excerpted from the ESCTAIC Newsletter, Vol. 5, #4, 1994.)

ESCTAIC '95

The 6th Annual Meeting of the European Society for Computers and Technology in Anesthesia and Intensive Care (ESCTAIC) will be held in Palermo, Sicily, Italy, 20-23 September 1995. This is a wonderful opportunity to visit a beautiful part of Italy during a great time of year.

For further information please contact:

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8th ISCAIC Meeting

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ESCTAIC in Sweden

The Annual Meeting of the Swedish Association for Anaesthesia and Intensive Care (SFAI) was held May 9-12, 1995, at Tanum Strand Conference Center on the coast of the Skagerrak Straits, halfway between Oslo and Gothenburg. For the first time, ESCTAIC was invited to sponsor a Symposium on Information Management in Anaesthesia and Intensive Care to be held as part of the Meeting program. Andre Dellerholm organized an excellent program which consisted of two lecture sessions with an international collection of speakers and a parallel Hands-on-Workshop on computer communication.

The first session was entitled 'Information Management in Anaesthesia and Intensive Care' and was moderated by Borge Hallen, ESCTAIC President. Wolfgang Heinrichs from Mainz, Germany, presented an overview of the motivation for adopting automated recordkeeping technology and some of the successes of the system that has been developed in his hospital. Jeffrey Feldman from Philadelphia, PA, spoke about the many forces at work in the United States that are driving us towards the adoption of information systems in the practice of Anesthesiology and medicine in general. Andreas Tecklenburg, from Hamburg, Germany outlined the ESCTAIC minimum anesthesia dataset project and demonstrated how the hospitals in his city have used this dataset to build an extensive database of patient information that is extremely valuable for QA purposes.

The second session was devoted to Information Management in Intensive Care. Andre Dellerholm summarized the Patient Data Management System developed at the intensive care unit of his hospital. He underlined the need for controlled studies to fully evaluate

the user acceptance, economical consequences, or the impact of the system on care processes. Dr Dellerholm concluded that PDMS, in spite of their high starting costs and staff adaptation problems, are here to stay and expressed his belief that such systems will soon become standard equipment of intensive care units. Aarno Kari from Kuopio, Finland, described EURISIC, the newly concluded multinational project, sponsored by the European Society for Intensive Care Medicine. It's final document containing detailed user requirements for information systems in intensive care will be presented in October 1995, during the 8th Annual Meeting of ESICM. In his other lecture, Dr. Kari addressed the relationship between the PDMS and Quality Management in intensive care medicine. He underlined the need for automated data collection to identify homogeneous patient groups and their "critical paths." Philipp Metnitz, from Vienna, Austria, analyzed the commercially available PDMS and pointed out that none of them fulfill all users' requirements. He suggested that the "State-of-the-Art" label can only be applied to components of systems, and from the users' point of view, the true "State-of-the-Art" system is the one that best meets their needs.

The Hands-on-Workshop - Knowledge by Computer Communication - was a Practical demonstration of global computer networks via Internet and CompuServe under expert guidance. An opportunity was available to visit discussion fora, search databases, send and receive electronic mail, etc. A live connection was provided and users were guided by Stefan Hassenstein on the Internet and Jeffrey Feldman on CompuServe.

The program was an excellent example of how our small technology societies can bring important technology topics to the attention of the practicing anesthesiologist. ♦

— J. Feldman

STA Research Awards

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cal process. The system produces an accurate audit trail of times into and from all stages of the process. The system has been rapidly adopted, with a high level of compliance (77-98%). It is anticipated that a significant financial benefit will result by capturing inefficiencies. Given that the meeting theme was "Technology Pays for Itself", the Committee felt that abstracts addressing technical innovations targeting improved hospital efficiency should be recognized.

Several other abstracts were cited for excellence as Honorable Mention. These included:

W.X. Chen, MD; C.E. Laurito, MD; and R.M. Navarro, MD: **The Use of an Indicator Dye and Near Infrared Spectroscopy to Detect an Intravascular Injection of Local Anesthetic.**

X. Ji, PhD; and J.H. Philip, MEE, MD: **Analyzing the Dynamic Behavior of Epidural Pressure in Response to Flow Step Change Uses Estimated Transfer Function Model.**

J.A. Orr, PhD; C. Healey, BS; and D. Westenskow, PhD: **An Automated Small Bolus Cardiac Output Measurement System.**

N.A. Wilder; J.A. Orr, PhD; and D. Westenskow, PhD: **A System to Calculate Tracheal Pressure from the ET Tube Cuff.**

The Committee was extremely gratified at the large number of quality abstracts this year. Clearly the Society is attracting attendance by very talented researchers in many areas. All awardees are to be congratulated for their fine work.

It should be mentioned that the Committee does not specifically endorse any commercial product. Therefore, while at least one of the above abstracts represents a commercial development, an award for research excellence should not be construed in any way as a product endorsement. The STA Research Committee feels strongly that quality research, regardless of its source, should be recognized and encouraged. ♦

— Robert T. Chilcoat, PhD
Chairman, Research Committee

