STA at the ASA

Once again the STA sponsored two major functions during the annual meeting of the American Society of Anesthesiologists. This year the annual dinner was held on Sunday, October 16, 1994 at the Parc 55 Hotel. The society was fortunate to have Dr. Nicholas Greene as the speaker for the evening. Dr. Greene spoke on Technology In Non-Technological Societies. (see accompanying article page 3) On Tuesday morning of the ASA meeting, STA sponsored the Annual Breakfast Panel Discussion entitled Mobile Management: Anesthesia on the Run.

Before the Panel was introduced, the President, Joachim (JS) Gravenstein introduced the President-elect Dwayne Westenskow, who presented the annual STA research award to S. Akamatsu, M.D., Y. Watanabe, M.D., E. Terazawa, M.D., and S. Dohi, M.D., for their paper entitled "Flow Velocity Measurement With A New Doppler Catheter Independent of Angle of Incidence".

Breakfast Panel a Success!

Following the presentation, there were four Breakfast Panel speakers. Dr. Grande, executive director of the International Trauma Anesthesia and Critical Care Society (ITACCS), spoke

Technology in Medicine: A World-Wide Activity

N. Ty Smith, MD
Alastair Lack, MB
Dwayne Westenskow, Ph.D.
Frank Block, MD

The interests that prompted the formation of STA, on October 10, 1988 in the USA, were evolving at the same time throughout the world. As a result, several organizations, both with goals akin to those of STA and/or devoted to organizing meetings for individuals active in technology applications in medicine have developed. Although their structures, methods, and short-term goals may vary to some extent, the basic, long-term goals remain strikingly similar among the various groups. The following is an attempt to review the history of these activities and to document the current state of these various organizations. Readers who identify omissions or inaccuracies are encouraged to write to the editor with any clarifications.

Meetings Pre-Dated the Societies

There are at least three meetings that have been held regularly but are not under the purview of an individual society. These include Computing in Anesthesia, which was started by Frank Scamman at the University of Iowa, in 1980. The Department of Anesthesia at Vanderbilt University subsequently assumed responsibility for the meeting, under the guidance of Bradley Smith. The meeting has traditionally been held at a salubrious site, immediately after the ASA Meeting. Another popular annual meeting is the Vail Meeting, as it is affectionately known, which was started in 1981 by Jack McDonald, and is well known for its informality, relaxed setting, and wonderful interaction among participants both on and off the ski slopes of Vail Colorado. The meeting is widely known for the innovative ideas that have emerged. The Vail meeting has actually had three names over the years: Anesthesia Space Age Monitoring Conference, Medical Monitoring Technology Conference, and Medical Technology Conference. The last begins in 1995, and emphasizes the broadened scope of the meeting.

The society of Computers in Critical Care and Pulmonary Medicine held its first meeting in Norwalk, Connecticut, in 1979. Sreedhar Nair

continued on page 2
STA at the ASA  
*continued from front page*

first on Exotic Environments. He provided an overview of the role of the anesthesiologist in trauma management and reviewed the various areas and environments where our expertise can be of assistance.

Dr. Pierre Carli, from the Necker Hospital, Paris, followed Dr. Grande with a presentation on Miniaturized monitoring. Dr. Carli spoke about the merits of monitoring different parameters during transport and also discussed useful specifications for a transport monitor. He was followed by Dr. Leland Hanowell who spoke on Portable Ventilators. Dr. Hanowell spoke on the problems confronting the designers for portable ventilators, and in particular, the problems presented by the consumption of gas and/or the need for electricity in austere or military conditions.

The final speaker, Dr. Charles P. Kingsley, spoke about techniques for anesthesia and sedation. He spoke on the relative advantages of the different approaches including the relative merits of the inhalational techniques versus total intravenous anesthesia. He indicated that, with improvements, total intravenous anesthesia may become the technique of choice. The presentations were followed by discussion with questions from the audience and answers from the panel members.

As usual the panel was both educational and entertaining and Dr. Grogono, the panel organizer, expressed thanks to the panel members and audience for making the session a success.  

- A. Grogono

STA Management Changes

JS Gravenstein, MD  
STA President

S

ince 1992 the business affairs of STA were managed by Phenix Corporation, a professional management company that also looked after almost 20 other medical societies. Last summer Mr. J. Wilhoit, the president of Phenix, informed us that Phenix would discontinue its relationship with STA after our Treasurer, Dr. Jan Ehrenwerth, had several unsatisfactory discussions with Mr. Wilhoit regarding STA finances. We agreed, and on October 20, 1994 Phenix and STA parted ways. In late November Mr. Wilhoit disappeared, and shortly thereafter Phenix ceased operation when it became apparent that its finances were in disarray. I have been informed that Mr. Wilhoit is now in jail.

As soon as we learned about the trouble with Phenix, Dr. Allen Ream visited the Phenix offices and was able to secure many of the records relating to STA business. We have also engaged a certified public accountant to review the accounts we had with Phenix and an attorney to advise us. The audit has not yet been concluded and the details of Phenix's obligations to its creditors have not yet been determined.

The business affairs of STA will now be administered by Mrs. Glenda Davis who can be reached through the Department of Anesthesiology of the University of Florida at STA, P.O. Box 100254, Gainesville, Florida 32610, (904) 392-3441, Fax: (904)392-7029, or Mobile (904) 316-1089.

The officers and board of STA have worked hard to insure a balanced budget for the society. This has been challenging as all costs had been rising. The decision to locate the administrative offices in Gainesville is expected to result in significant operational savings. Our newsletter is also now produced by a new and less expensive vendor.

As yet we do not know how much the fiscal mismanagement by Phenix has cost our Society. The membership will be informed of the audit results as soon as they are available. Donations to the society are always accepted and appreciated and as a non-profit, educational society are tax deductible.

STA is a small society that fills an important niche for those of us interested in anesthesia and technology. I am confident that we can overcome our current difficulties and continue to work together in furthering the goals of STA.  

INTERFADE 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:

Jeffrey M. Feldman, MD  
Editor, STA Interface  
Department of Anesthesiology  
Albert Einstein Medical Center  
5501 Old York Road  
Philadelphia, PA 19141  
Phone: (215) 456-7797  
FAX: (215) 456-8539  
E-Mail: 74426,3015@compuserve.com (Internet)

Richard Botney, MD  
Associate Editor, STA Interface  
Department of Anesthesiology-112A  
Palo Alto VAMC  
3801 Miranda Avenue  
Palo Alto, CA 94304  
Phone: (415) 858-3938  
E-Mail: rbotney@aol.com

International Editors  
Naosuke Sugai, MD, PhD  
Australia  
Tokyo, Japan

John Zelcer, MD  
Australia  
Melbourne, Australia

Andre Dellermain, MD  
Europe  
Uddevalla, Sweden

The newsletter is printed on recycled (and recyclable) paper.
Dr. Nicholas Greene, Professor of Anesthesiology at Yale University School of Medicine, has been a leader in the development of educational programs to train anesthesia personnel in developing countries. Through that experience he has gained unique insights into the role of technology in the practice of anesthesia in these non-technological societies. Dr. Greene shared these insights with STA members and their guests at the STA dinner meeting which took place during the recent ASA meeting.

Since the dinner meeting at the ASA is the first opportunity for STA members to meet after the many months since the STA annual meeting, the first portion of the time was devoted to meeting and greeting old and new friends. After dinner, Dr. Greene treated the audience to a fascinating discussion of the needs of these countries and the degree to which they utilize technology. Examples like the expert fashion in which native cultures in South America have learned to utilize and deliver curare via a blow gun emphasized the ingenuity and "technological" sophistication of these people, albeit in ways that are not considered technology in the more developed countries.

Despite the lack of western-style technology, anesthesia is practiced successfully in developing countries every day. An overwhelming problem is that only about 10 to 15% of the surgery that can and should be done is actually done due to a lack of qualified anesthetists. The problems are different from region to region even within the same country, but physicians are in general scarce and poorly distributed so that much of the anesthetic care is relegated to paramedics, often called anesthetic officers.

Dr. Greene identified important cultural differences in the manner in which the anesthetic officers in the developing countries approach education and patient care. He emphasized that overwhelming poverty has created cultural passivity. Problems are not solved but accepted. When questioned by a teacher, students in these countries will seek to provide the answer they think you want rather than the correct answer to a problem. There is no sense of urgency even in the face of medical emergencies. In order to function effectively in these countries as a teacher, Dr. Greene emphasized the need to understand these cultural differences and to work within that framework.

The Role of Technology

The high-tech modern medicine in the developed world is not the answer for the developing countries but certain technologies do play a vital role in the delivery of anesthesia. The Epstein-Macintosh-Oxford (EMO) Vaporizer is used in many rural areas to administer ether. This device is inexpensive and quite indestructible. It uses a draw over technique for delivering vapor, and functions equally well with room air or oxygen. Although an ether vaporizer would seem outmoded, the EMO vaporizer functions as a reliable, practical means to deliver anesthesia in the developing world.

Oxygen concentrators are another important technology. These devices utilize zeolite (aluminium silicate with ion exchange properties) to adsorb nitrogen from air that is flowing through the device. The result is a gas mixture with as much as 85% - 95% oxygen depending upon the rate that air is supplied to the device. Concentrators are extremely useful where oxygen supplies are not available and require only a source of compressed air to function.

Dr. Greene emphasized that even the most rudimentary monitoring is not available in many places where patients are anesthetized. As a result, all the anesthetist's senses must be used. - the eyes to look at skin color, the nose to evaluate the type and concentration of anesthetic agent, the ears to listen to the chest (and the surgeon) and the finger to palpate the pulse.

It is easy for a visitor to these countries from the developed world to feel a sense of hopelessness. Dr. Greene noted however the dedicated people he has encountered who, despite the disadvantages they are faced with, manage to bring courage, innovation and purpose to their work. He emphasized that training these people is where we need to focus in order to help these countries develop. Merely attempting to transfer our methods to these societies is doomed to failure.

Dr. Greene is the former director of the ASA's Overseas Teaching Program (OTP) and has traveled the world educating anesthetists. For additional information about this program please contact the current director:

Mark P. Colip, MD
6015 Foxcroft Road
Tyler, TX 75703

J. Feldman

ACKNOWLEDGMENT

The Society for Technology in Anesthesia wishes to thank the following corporate partners for their gracious support of the dinner meeting this year.

Marquette Electronics
Ohmeda
North American Drager
Hewlett-Packard
Spacetech Medical
Nellcor
Annual STA Research Awards

The Society for Technology in Anesthesia is pleased to announce recipients of the Annual ASA Research Awards. The '94 ASA Research Award for Technology was given to S. Akamatsu, M.D., Y. Watanabe, M.D., E. Terazawa, M.D., and S. Dohi, M.D., all from the Department of Anesthesiology & Critical Care Medicine, Gifu University School of Medicine, Gifu 500, Japan, and Y Kondo, B.S., from Aloka Co. Ltd., Tokyo 198, Japan for their paper titled "Flow Velocity Measurement With A New Doppler Catheter Independent of Angle of Incidence."

As stated in their ASA abstract: "We newly developed a Doppler catheter to obtain the true velocity independent of the angle formed by the ultrasound beam and the flow". "The Doppler catheter has a pair of adjoining ultrasonic crystals located on the side of the catheter in right angle. The Doppler shift were detected by two transducers, respectively, sampling at closely spaced two points". "The velocities were calculated using newly developed phase differential techniques" that "enables us to measure true flow velocity independent of the ultrasonic beam's angle of incidence. Clinical application of our technique and the Doppler catheter would include the continuous measurements of blood flow velocity in great vessels, e.g., pulmonary artery, and a continuous monitoring of cardiac output". Anesthesiology 81:A570, 1994

This abstract presented a new technology. When compared with an electromagnetic flowmeter, in an animal study, the device gave very precise measurements of blood flow.

In their future work, the authors should consider the effect of cross-sectional area on the accuracy of the measurement, because vessel diameter often changes during clinical conditions. The authors should examine the flow profile across the vessel to determine its influence on the accuracy of the measurement. Perhaps a correction can be found to compensate for crystal orientation in the vessel.

...to recognize quality research and significant findings...

The '94 ASA Clinical Applications Award went to P. Merckx, M.D., J.P. Cantineau, M.D., P Reynaud, M.D., F. Porte, M.D., and Y. Lambert, M.D., from the Department of Anesthesiology - SAMU du Val De Marne, Hôpital Henri Mondor; Créteil, France, for their paper titled "Evaluation of Maximal PETCO2 Values Detected by a Portable Electronic ETCO2 Sensor to Predict Return of Spontaneous Circulation".

From their abstract, the purpose of the study was to: "...evaluate the prognostic value of the maximal PetCO2 level during chest compressions detected by a portable electronic sensor to predict return of spontaneous circulation (ROSC)". "Forty-four patients .....in pre-hospital CA were studied". "The maximal PetCO2 value ...was defined as the highest value which was observed during chest compressions for the first 20 minutes of CPR...". "Very high sensitivity (100%), and negative predictive value (100%) were obtained with PetCO2<10 mmHg ...to predict a positive outcome". "Maximal PetCO2 values >10 mmHg correctly identifies patients who will be resuscitated. Failure to produce higher values during CPR could suggest that ROSC is unlikely". Anesthesiology 81:A588, 1994

The authors conclude that when end-tidal CO2 is less than 10 mmHg, there was not clinical need to proceed with resuscitation. This provides a very clear criteria to abandon resuscitation. The use of end-tidal CO2 during resuscitation addressed a very significant problem present in a large number of resuscitations each year. Many families could be saved from the travail which accompanies this most difficult clinical situation. The authors show that the false negatives for this criteria are very low, providing a clear clinical criteria for resuscitation. The committee recognized that resuscitation studies are very difficult to conduct. The design of the study was carefully laid out to produce a result which makes good clinical sense.

The Research Committee wishes to also recognize the contribution by the following individuals and research groups:

Paper A502 by AT Rheineck Leysius, M.D. and CJ Kalkman, M.D. titled "Influence of Pulse Oximeter Lower Alarm Limits on The Incidence of Hypoxemia in The Post Anesthesia Care Unit", provided data to sharpen the line of decision-making by a pulse oximeter. It is a very practical contribution.

Paper A583 by JV Roth, MD and MD Abad, MD showed a colorimetric CO2 indicator which has overcome practical problems with former indicators, providing more rapid response time and less sensitivity to water vapor.

Paper A576, "Noninvasive Hemo-globinometry", by D Gravenstein, MD, S Lampotang, PhD, N. Gravenstein, MD, and M. Brooks, BS. This is continued on page 10
Since the last issue of Interface was published, I have settled into a new city and a new job and in the process have relinquished my direct Internet access. For the time being I'm using my America OnLine account for e-mail and Internet access. The experience has allowed me to compare different methods for connecting to the various resources in cyberspace. For the most part, there has been a decrease in what I can accomplish on the Internet. For example, access is at modem speeds rather than direct network speeds. As a result, downloading information is now much more time-consuming and cumbersome. Furthermore, not all services are currently accessible via America OnLine; most notably the World Wide Web is currently unavailable. In addition, although electronic mail has not been interrupted, it has become less convenient. The transition has afforded some advantages as well. For example, as I drove across country, I was able to maintain daily contact with colleagues, as well as download our discussion list postings each day, something I could not do with my Internet account when traveling. Nonetheless, the disadvantages outweigh the advantages, and I look forward to the near future when I reestablish direct Internet access.

### Resource Updates

A few new resources of interest to anesthesiologists have come to light in the past three months. New lists (short for listservers) from the American College of Veterinary Anesthesiologists (subscription address listserv@cornell.edu), an Anesthesia, Trauma and Critical Care list from Chile (subscription address listserv@bitmed.secc.uchile.cl), and the Anesthesiology, Critical Care Medicine and Emergency Medicine Work Group of the American Medical Informatics Association (subscription address listproc@aemrc.arizona.edu) are now available. The Critical Care Medicine list, courtesy of Dr. David Crippen, has a new address. Subscription messages should now be sent to listserv@ubvm.cc.buffalo.edu with the message "subscribe CCM-L<your real name>".

The ASA is establishing a gopher. Although it is not yet up and running, interested parties can contact Dr. George Sheplock at gsheplo@indy.vax.iupui.edu. The University of Florida has a Web site (URL: http://www.anest.ufl.edu/) which includes material from FACET, the Florida Anesthesia Computer and Engineering Team.

### Discussion Topics

Case scenarios continue to be posted for discussion on the various lists. Only a couple postings will be described at this time; more comprehensive reviews will resume next issue.

A morbidly obese individual presents for circumcision. A spinal was attempted but could not be done. Likewise, an "awake-look" was unsuccessful. The patient has back pain at the spinal site and refuses spinal or epidural anesthesia. The surgeon declines to do a penile block, apparently because of inexperience with that technique. How should this patient be managed?

Almost 30 responses were posted in regards to this case, divided into two camps: those advocating a gen-

---

**Figure 1.** Brief listing of Internet resources, including listservers, gophers, and WWW sites, related to anesthesia. Other resource listings may be obtained from those listed below.

<table>
<thead>
<tr>
<th>Listserv</th>
<th>Subscribe Command</th>
<th>Command Address</th>
<th>Message Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syracuse</td>
<td>Subscribe anest-l</td>
<td><a href="mailto:listserv@ubvm.cc.buffalo.edu">listserv@ubvm.cc.buffalo.edu</a></td>
<td><a href="mailto:anest-l@ubvm.cc.buffalo.edu">anest-l@ubvm.cc.buffalo.edu</a></td>
</tr>
<tr>
<td>NYU</td>
<td>subscribe</td>
<td><a href="mailto:lisproc@gasnet.med.nyu.edu">lisproc@gasnet.med.nyu.edu</a></td>
<td><a href="mailto:anesthesiology@med.nyu.edu">anesthesiology@med.nyu.edu</a></td>
</tr>
<tr>
<td>Pediatric Pain</td>
<td>subscribe</td>
<td><a href="mailto:mailerv@ac.dal.ca">mailerv@ac.dal.ca</a></td>
<td><a href="mailto:pediatric-pain@ac.dal.ca">pediatric-pain@ac.dal.ca</a></td>
</tr>
<tr>
<td>STA Listserv</td>
<td>subscribe STA</td>
<td><a href="mailto:listserv@anes.med.nyu.edu">listserv@anes.med.nyu.edu</a></td>
<td><a href="mailto:sta@anes.med.nyu.edu">sta@anes.med.nyu.edu</a></td>
</tr>
<tr>
<td>Resource List (ACRI-L)</td>
<td>subscribe ACCRI-L firstname lastname</td>
<td><a href="mailto:listserv@uabdo.dpo.uab.edu">listserv@uabdo.dpo.uab.edu</a></td>
<td>none available</td>
</tr>
</tbody>
</table>

**Gopher and WWW sites**

- GASNet gopher: gopher gasnet.med.nyu.edu
- Syracuse gopher: gopher eja.anes.hscsyrr.edu
- Gasnet WWW URL: http://www.med.nyu.edu/homepage.html
- Australian WWW URL: http://www.uq.oz.au/anesthome.html

---

**continued on page 6**
ESCTAIC Holds Fifth Annual Meeting

The European Society for Computing and Technology in Anesthesia and Intensive Care (ESCTAIC) met for three days last October in beautiful PortaCarras, Greece. The three day meeting included 47 scientific presentations, 4 tutorials, and 3 workshops.

Many presentations reported progress in the development of data management systems and hospital-wide networks. User interface advances have focused on the use of guided data entry and standardized menus to facilitate data entry. Protocols for data transfer between devices have been essential to integrating hospital systems. Tools designed to measure the quality of practice using statistical techniques were also discussed.

The role of technology in training was also featured. E. Olofsen (Leiden, Netherlands) presented a pharmacokinetic/dynamic model used to simulate drug disposition for anesthesia trainees. A. Rettedal (Norway) described an instrumented mannequin which he uses for device evaluation. A group led by S. Arseniev (Moscow, Russia) uses PolyAnalyst, a computational tool used to examine relationships hidden in data and to automatically acquire smart alarm rules from physiologic data.

In a clinical study, N. Lutter (Erlangen, Germany) found the Cortronics continuous noninvasive blood pressure monitor to be accurate during hemodynamically stable periods, but not in situations when sudden alterations in blood pressure are to be expected. M. Bloom (Pittsburg, USA) showed that discriminate analysis and cluster analysis produced a graded EEG response during anesthesia induction and recovery. B. Schwilk (Ulm, Germany) and A. Tecklenburg (Hamburg, Germany) described how critical incidents are now reported routinely in their hospital, and have found as much as a 6-fold increase in the number of incidents for patients with preoperative respiratory disease and obesity.

ESCTAIC’s 6th Annual meeting will be held 20-23 September 1995 in Palermo, Italy. For further information, contact D.B. Lanza by E-mail at LANZA@CUC.UNIPA.IT

- D. Westenskow

Nominations for STA Offices

There are two positions open for STA office in this years election. Ballots have been distributed to the membership and should be returned to Glenda Davis at the national office. The candidates identified by the Nominating Committee are:

PRESIDENT ELECT—Allen K. Ream, MD, MS (Physiology), MS (EE)

Allen Ream has been active in STA since its inception serving as the Charter Vice President from 1989-1993. He also founded the Journal of Clinical Monitoring and worked to establish the ASA Annual Meeting Section on Equipment, Monitoring and Engineering Technology. He is currently active in STA as the Chairman of the Bylaws Committee and has devoted much personal time to the fiscal management of STA. Dr. Ream is a retired member of the Stanford University faculty and presently works as a consultant.

DIRECTOR (One position open)—Gordon L. Gibby, MD, MS (EE)

Gordon Gibby is currently an Associate Professor of Anesthesiology at the University of Florida. His research interests include the development and improvement of computerized preoperative evaluation systems, and anesthesia medical history data capture, storage and dissemination via computer networks. Dr. Gibby assisted with the afternoon seminars of the 1994 STA Annual Meeting and is the Scientific Program Coordinator for the 1995 Annual Meeting.

Richard Bartkowski, MD, PhD (Physics)

Richard Bartkowski is currently Professor of Anesthesiology at Thomas Jefferson University in Philadelphia. He also serves as the Director of Research for that department. Dr. Bartkowski has served STA as a founding member of the Research Committee

SIGnatures continued from page 5

GALEAN’s original anesthetic with spontaneous ventilation, perhaps with an LMA, and those advocating a local anesthetic, e.g. penile block. Approximately 80% of the respondents supported the latter approach.

A second posting concerned the misuse of controlled substances by health care providers, and various means to control such substances. Interestingly, several readers noted that various auditing agencies would "ding" them when their drug counts were too accurate. Some days you just can’t win!

Upcoming Events

STA ’95

January 25-28, 1995

Society for Technology in Anesthesia

“Technology Pays for Itself”

Princess Hotel

Phoenix, AZ

Info:

STA

P.O. Box 100254

Gainesville, FL 32610

(904) 392-3441

FAX (904) 392-7029
Introduction

The World Wide Web (WWW) is a global network of computers, connected through the Internet, that provide information on a wide variety of subjects using all types of media including pictures, movies, and sound. Unlike basic Internet software such as telnet and the file transfer protocol (ftp), WWW "browsers" present information in an intuitive, graphical format. A typical WWW browser display resembles the printed page in appearance, and contains text and pictures. It may also contain one or more hyperlinks, or highlighted references to other files. A hyperlink can point to a picture, a sound, a movie, or another hypertext document. When the hyperlink is selected (by pointing and clicking), the new file is automatically loaded and displayed. The hypertext link can refer to a file on the same computer as the original document, or on a computer anywhere in the world. The WWW browser can easily be customized by the user who controls what typestyles will be used for headings and highlighted text, and with a helper application, or viewing program, will be used to access a given file.

What's in a URL?

The resources on the WWW are defined using URLs, or Uniform Resources Locators. The URL specifies everything that is needed to make use of a given resource on the Web, including the type of service that is desired (WWW or ftp, for example), the name of the computer where the resource resides and the file to retrieve. For example, the URL of the GASNet Anesthesiology Home Page is:

World Wide Web

http://gasnet.med.nyu.edu
/HomePage.html

http: indicates that the service is a World-Wide Web service.

gasnet.med.nyu.edu is the name of the computer where the information resides and to which the user will be connected.

HomePage.html is the name of the file to be retrieved.

Many WWW browsers also contain "clients" for other Internet services such as gopher and ftp. To connect to the GASNet Anesthesiology Gopher, you could use this URL:

gopher://gasnet.med.nyu.edu

Less information is needed here; only the type of service and the name of the computer is given.

Cruising the Web

In order to gain access to the WWW, you will need to either connect your computer to the Internet or gain access to a computer that is connected. If you are affiliated with a university, simply ask the person responsible for the computers in your department about getting a connection. If you are not affiliated with a university, or if you would like access at home, there are several options. Several companies including Performance Systems International (PSI, Reston, VA) and IBM offer dial-up Internet connections. These services use one of two protocols to connect your computer directly to the Internet over ordinary telephone lines. The two protocols in use are SLIP (Serial Line IP) or the newer PPP (Point to Point Protocol). Internet applications, such as Mosaic or Gopher, run just as they would if you were directly connected. Another option is to obtain access to an online service that provides a WWW browser. Prodigy currently offers a WWW browser as part of its services, and America Online and CompuServe have indicated that they plan to offer this service.

Once you have access to the Internet, you will need a WWW browser. The first, and most well-known WWW browser is Mosaic. Mosaic was developed at the National Center for Super Computing Applications (NCSA), and has been ported to many different operating systems, including the Macintosh, Microsoft Windows, and several versions of UNIX and X-Windows. It is distributed free of charge as a binary executable (i.e. ready-to-run) file and as source code that can be modified to work on unsupported computers. Not all versions of Mosaic provide all features. The Macintosh version of Mosaic does not support forms, one of the most interesting updates to WWW; forms are incompletely supported in the Windows version. An early, unsupported release of the updated version of Mosaic (Version 2.0) is available from NCSA.

A commercial WWW browser called NetScape has recently been introduced by the MCOM corporation, a company started by the original authors of Mosaic. The 0.9 beta version is being distributed at no charge, and the company has stated that it will distribute the 1.0 version at no charge.
The AACA meeting was held from November 5 through 12, 1994, in Bangkok, Thailand. How to pronounce Bangkok: We tend to place the accent on the first syllable, stressing "Ban". The people in Thailand, however, place the accent on "kok", making it sound quite differently from what we are used to.

Congestion! Congestion!: Bangkok has a population of 10 million people, but it has virtually no railroad or subway – residents rely entirely on cars. Although it is certainly more congested than any of the big cities I have visited, I found people well mannered and disciplined. During the 7 day visit, I did not observe a single quarrel between drivers an event which is all too common in other big cities.

Although this was an Asian meeting, the program included international representatives. Professor Adams from Guys Hospital, London, gave two superb presentations during the Congress which made a very strong impression on the attendees. Professor Adams lectured on safety in anesthesia and on monitoring the circulation. Dr. Kenny from Glasgow, Scotland, gave a Refresher course on the subject of Computers in Anesthesia. As always, he gave an excellent talk on this subject, though its practical application may be questionable to many audiences from this part of the world. I especially enjoyed the discussion of closed loop anesthesia. In his hand, it certainly has gone beyond the experimental stage and is now approaching routine anesthesia. To a question from the audience asking why we need a computer for intravenous anesthesia, he responded: "With inhalation agents, we can estimate blood concentration from inspired or end-expiratory gas concentrations. With intravenous agents, there is no such good parameter for estimating blood concentration."

The most enjoyable, and probably the most talked-about, event throughout the Congress was the Debate about Total Intravenous Anesthesia which included a convincing "con" argument by Dr. Frost (New York). Four authorities debated upon this subject; two pros and two cons, respectively. Dr. Frost denounced every advantage quite effectively and stressed strongly all disadvantages/defects of this method and of agents. At the end of the session, the audience voted down the notion that this method should be adopted more extensively. Afterwards, one of the audience members commented that she should be in Washington, rather than giving anesthesia.

Some of the sessions contained papers that would be of interest to STA members regarding aspects of anesthesia practice in Asia.

Dr. S. N. Smead Choudbury of Bangladesh has developed an anesthetic machine suitable for peripheral hospitals in Bangladesh capable of delivering oxygen and nitrous oxide from compressed cylinders as well as oxygen and air using an oxygen concentrator (without compression cylinders).

Dr. B.M. Shretha of Nepal uses the Penlon Manley Multivent Ventilator which can be operated by either an electrical supply, battery or compressed oxygen. This is especially suitable for a draw over technique with oxygen supplement.

Dr. Roger Edge of King Khaled Eye Specialists Hospital in Saudi Arabia compared mortality from local and general anesthesia after 75,000 anesthetics for ophthalmology. Only one death occurred within 24 hours of anesthesia in one patient with homozygous sickle cell disease who suffered fatal sickling five hours after general anesthesia.

Dr. Mitsugu Fujimori of Japan spoke on the role of the WFSA, AARS education committee in organizing refresher courses in various regions of the world. After the last World Congress of WFSA, many programs took place. Out of the total budget, the African region received 20% and 10% was allocated to the Asian region. Europe and America each received 7%.

A symposium on "Anesthesia by the year 2000: Present status and future perspectives on AARS" was held by speakers form Bangladesh, India, Indonesia, Korea, Nepal, New Zealand, Philippines, Malaysia, and Sri Lanka. The situation regarding anesthesia is widely different among countries in this region from countries with long history of specialists anesthesia practices to those with a handful of anesthesiologists in comparison to the large population they have to serve. The panelists, however, were all full of hope for a better tomorrow for anesthesiologists which must come from the cooperation of anesthesiologists world wide.
and Omar Prakash were co-chairmen. Each year the location of that annual meeting alternates between a European and an American location. For over 15 years that society has brought leading experts in pulmonary physiology into contact with those developing technology for critical care. The name was changed in the late 1980s to Computers in Critical Care, Pulmonary Medicine and Anesthesia because the majority of those attending the meetings were Anesthesiologists. The International Journal of Clinical Monitoring and Computing is the affiliated journal for this society. Meetings continue today as a memorial to Omar Prakash, the remarkable man who helped found the society.

...interests that prompted the formation of STA were evolving... throughout the world

Some of you might be interested in the history of the International Symposium for Computing in Anaesthesia and Intensive Care (ISCAIC). The first meeting was held in the early 1980s and was organized by Stu Sullivan, with the aid of Stan Stead and Ty Smith. The first two meetings were held in Santa Monica, California. During the 2nd Meeting, it was decided to ask Omar Prakash to run the meeting every other time. The ISCAIC reached true international status in 1988, at the San Diego meeting, where attendees from 21 countries participated. The 6th ISCAIC, held in Hamamatsu, Japan, was one of the most spectacular meetings most of us have ever attended.

Societies Emerge Worldwide

In Europe, the British were the first to organize a society by founding the Computing in Anaesthesia Society, on January 7, 1987. This group was renamed SCATA (Society for Computing and Technology in Anaesthesia) in 1989, and meets twice a year in May and November (having just had its 18th meeting). SCATA is currently chaired by Gavin Kenny.

In 1989, the European Society for Computing and Technology in Anaesthesia and Intensive Care (ESCTAIC) emerged and has had remarkable success at drawing together members from 23 different countries, and almost as many languages! This society meets annually in October, and is currently chaired by Alastair Lack. In 1994 ESCTAIC officially took on its board two members from the SCCCPMA (Society for Computing in Critical Care Pulmonary Medicine and Anesthesia), and will henceforth hold joint meetings alternately in Europe and in the US.

Our Japanese colleagues have always been leaders in technology, and it is not surprising that they have a very active group. The Japanese Society has 300 members, and an annual meeting. One of the most striking areas of Japanese innovation has been in the technology of running a meeting. At the Hamamatsu 6th ISCAIC Meeting, facilities for projection of several simultaneous computer-generated demonstrations were available. At the 1995 Meeting of the JSA, computer projection onto a 40-foot wide screen will be a definite highlight! In addition, each copy of the proceedings will include a CD-ROM, with the participants' slides incorporated.

To provide an umbrella for all of the societies devoted to technology in anesthesia, the World Societies for Technology in Anaesthesia was formed in 1992. The first meeting will be held in conjunction with the 8th ISCAIC, to take place in Melbourne, Australia, on April 21-24, 1996, immediately after the World Congress in Sydney. Those interested in this meeting should contact Dr. John Zelcer.

This is just a beginning. We all look forward to a rapid expansion of activity and influence by these organizations. This will happen because independently, they have focused on topics that are vital to the practicing anesthesiologist. Representing true synergism, they thrive on cooperation among themselves and on your support, just as you benefit from their activities. Support your societies! ♦

FOR INFORMATION ABOUT THE 8th ISCAIC MEETING

Dr. John Zelcer, M.B., B.S.,
B.Med.Sc.(Hons), F.A.N.Z.C.Z.
Specialist Anaesthetist
Department of Anaesthesia,
St. Vincent's Hospital
Centre for Medical Computing
Melbourne Australia
Work: 011-61-3-419-4277
Fax Number: 011-61-3-824-7224
E-Mail Address:
zelcer@mulga.cs.mu.oz.au OR
zelcer@informatics.wustl.edu
Research Awards
continued from page 4

an interesting and novel device to provide us with a noninvasive measurement of hemoglobin concentration. It is an independent measurement which is often needed clinically. This research is very practical in an area that has been neglected.

Paper A567, "Urine Oxygen Tension Following Cardiopulmonary Bypass is Logarithmically Related to Postoperative Renal Function", by M. Kainuma, MD, T Miyake, MD, and T Arai, MD. This innovation provides a measurement of urine oxygen tension for the assessment of renal function in the operating room. Renal failure is a significant event and this device may detect injury in time to change the outcome.

Paper A533, "Cerebral Oxygen Saturation During Cardiac Arrest", by W.J. Levy, MD and S. Levin, MD. The authors found a clinical situation where brain hypoxia is present in a clinical setting. This allowed a clinical evaluation of a technology for measuring cerebral oxygen saturation.

Paper A597, "An Advantage of a New Epidural Catheter With a Unique Cross-Section", by T Yorozu, MD, M Kondoh, MD, H Morisaki, MD, M Zenfuku, MD, K Nakat, MD, and T Shigematsu, MD. This work is a simple solution to a classical and real clinical problem.

Paper A600, "Isoflurane Recovery From Waste Anesthetic Gases", J Scharf, A Wong, J Cooke, W Lee and S Campbell. This manuscript receives an environmental award for a recovery technique to reclaim waste anesthetic gases. Promise for a feasible technique to recover waste gases.

Recipients have been selected by the STA Research Committee from the 154 abstracts in the Equipment, Monitoring and Engineering Technology section of the ASA '94 meeting. The committee has attempted to avoid commercial endorsement. A number of the abstracts represented commercial developments or evaluation of commercial developments and though there is the commercial connection, we felt the research was carefully conducted and wish to recognize quality research and significant findings regardless of their source. 

- D. Westenskow

World Wide Web
continued from page 7

NetScape offers several advantages over Mosaic, including improved image handling, forms support, and support for an extended version of the language used to create WWW documents. Other commercial browsers include Enhanced NCSA Mosaic (Spyglass, Champaigne, IL).

Lynx is a popular text-based WWW browser written at the University of Kansas. It is a character-based WWW browser, and incorporates much of the functionality of Mosaic or NetScape. Lynx offers the ability to download files containing graphics or sounds for use on another computer. It offers the advantage that it can be used with character-based "dial-up" accounts.

Starting Points for Exploration

Anesthesiologists must keep current on both theoretical and practical information, including a number of manual skills; the specialty thus lends itself to production of hypermedia tutorials. These tutorials can contain a description of a procedure, such as a nerve block, and can incorporate pictures or a short video demonstrating the procedure. The tutorials can be cross-referenced to each other, and new terms can even be defined in a glossary.

The GASNet Anesthesiology Server is currently located at the New York University Medical Center, and provides hypertext anesthesia manuals, bibliographies, and other educational materials. It also provides links to other anesthesiology WWW sites around the world and other resources of interest to anesthesiologists.

A good place for newcomers to the Web to get started is the NCSA Home Page. This page offers links to a variety of interesting sites that showcase the features that the WWW has to offer. The NCSA Home Page also contains links to some of the many indexing sites on the Web.

The WWW contains a vast amount of information on nearly any topic. Indexing programs at a number of academic and commercial sites can aid in finding information on a specific topic. The indices on the web either contain hyperlinks to WWW servers organized by topic (such as the Yanoff list) or offer keyword searches of a known list (such as Lycos). The WWW Virtual Library is a formal, volunteer effort to catalog and index the diverse array of information. The top level of WWW Virtual Library is stored at CERN, and individual subsections of the library are maintained by volunteers.

Before the advent of the WWW, exploring the Internet was an arduous trek requiring difficult-to-use tools and an intimate knowledge of the UNIX operating system. The WWW has turned this trek into an enjoyable cruise, so stop reading and start exploring!

Examples of URL's of interest:

GASNet Home Page: http://gasnet.med.nyu.edu/HomePage.html
NCSA Mosaic Home Page: http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/
NCSAMosaicHomePage.html

- K. Ruskin
Don't miss this exciting meeting!

To Register, Please Contact
The Society for Technology in Anesthesia
c/o Mrs. Glenda Davis
(904) 392-3441
FAX: (904) 392-7029
ELECTION OF OFFICERS

Ballots have been sent to the membership for election of two new officers for STA.

The nomination for President-Elect is Allen K. Ream and the two nominations for Director are Richard Bartkowski and Gordon Gibby.

Ballots are now being return to the national office and the official announcement will take place at our 1995 Annual Meeting in Scottsdale, Arizona.

(See page 6)

Tax-Deductible Donations

The Society for Technology in Anesthesia is registered with the Internal Revenue Service as a charitable, educational organization under section 501(c)3. Donations to the Society (in excess of value received) are deductible for income tax purposes.

To keep the newsletter intact, photocopies of this application are accepted.