STA

10th Annual Meeting of the
Society for Technology in Anesthesia

Technology for the Next Century

ORLANDO
STA
2000

January 12-15, 2000
Disney's Coronado Springs Resort, Lake Buena Vista, FL

Society for Technology in Anethesia
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SOCIETY FOR TECHNOLOGY IN ANESTHESIA
COURSE SCHEDULE

WEDNESDAY, JANUARY 12

0800-1700	STA Board of Director's meetings
1200-1730	Special interest group meetings
1730-2000	Registration
1800-2100	Welcome reception – exhibit area

THURSDAY, JANUARY 13

0700-1600	Registration desk open
0700-1200	Technology exhibits and demonstrations
0700-1200	Research Poster and Software Presentations at all breaks
0700-0800	Continental breakfast
0800-0815	Opening remarks and course overview

0815-1200   Session I – Anesthesia Informatics
Drs. Gordon Gibby Michael Jopling moderators
0815 – 0915   Information Entry
What Tests are Needed? Richard Epstein
Experience with Voice Recognition: Nina Geiger
New Testing Devices and New Opportunities: Michael Husband *

0915 - 0930   Technology exhibits and demonstrations and posters

0930 - 1100   Information Usage
Web-Based Secure Access: Gordon Gibby
Web-Based Workflow Improvement: Mike Jopling
Managed Care in the Information Age: Ariadne's Thread: Jeff Rose
1100 – 1145   Future Human Factors Displays
Aviation Human Factors Displays: John Wise
Advanced Anesthesia Displays: Dwayne Westenskow

1200-1300   Lunch – Box lunch in Exhibit area

1300-1700   Field Trips   Dr. Gordon Gibby, coordinator

1830-2200   Simulator user group meetings and dinners

FRIDAY, JANUARY 14

0700-1600	Registration desk open
0700-1700	Technology exhibits and demonstrations and posters
	Research Poster and Software presentations at all breaks
0700-0800	Continental breakfast

0800-0945   Session II – Virtual Reality: When?
Dr. Richard Bartkowski, moderator
Now and the Very Near Future: George Sheplock
Virtual Bronchoscopy: Richard Rowe *
What's Needed Before VR is really Ready: W. Bosseau Murray *

945-1015   Technology exhibits and demonstrations and posters

1015-1130	Session III Monitors: What's Missing Dr. David Seitman, moderator Use of TEE in Non-Cardiac Surgery: Sheldon Goldstein How Real is the Data: David Seitman Signal Extraction from Noisy Pulse Oximetry Data: Julian Goldman
1145-1300	Lunch, awards, and business meeting
1300-1400	Session IV – Selected Abstract Presentations Dr. Kirk Shelly, moderator
1430-1730	Session Va Simulators in Education Dr. Daniel Raemer, Moderator Simulation Engines in Learning Systems: David Williamson Shaffer Medical School Education Using Simulation: Lindsey Henson Crisis Resourse Management: W. Bosseau Murray Simulation Technology: Dan Raemer
1430-1730	Session Vb Computing Skills to Advance Medical Knowledge Dr. Alan Grogono, moderator Personal Internet Self-Defense 2000: Security & Privacy for the New Millennium: Robert Jones Computers in Medical Practice: Tom Engel Using the Web for Practice and Personal Gain: Keith Ruskin
1830-	Special group event – for guests and family

SATURDAY, JANUARY 15

0730-1100	Registration desk open Technology exhibits and demonstrations and posters
0700-0800	Continental breakfast
0800-0830	Research Committee Awards Fritz Stawitcke, moderator
0830-0930	Session VI - Keynote speaker Rocket Triggered Lightning Experiments at the International Center for Lightning Research and Testing at Camp Blanding: Vladimir Rakov
0930-1100	Annual STA Debate BIS - Standard? Dr. Richard Epstein Dr. Theodore Dushane
1130-1200	Course evaluation and close of scientific sessions

FACULTY DISCLOSURE: Many STA members have associations with corporate entities. Each faculty is required to advise the audience of any conflict of interest or relationship prior to their presentation. Faculty identified with * have (prior to publication of the syllabus) indicated they have a commercial relationship. If you perceive a conflict of interest that has not been disclosed please inform the course director and note so on your evaluation form. Thank you.

ABSTRACTS

POSTERS AND DEMONSTRATIONS
During all breaks in Exhibit area

FORMAL PRESENTATIONS
Friday, January 14 1300
General Session

New Method to Determine Depth of Anesthesia from EEG Measurements
H.E. Veritio-Oja, PhD, Datex-Ohmeda Division, Instrumentarium Corp, Finland

Interactive, Web-Based Educational Simulation of an Anesthesia Machine
Sem Lampotang, Department of Anesthesiology, U of Florida, Gainesville FL

Systematic Error Analysis of the Partial Rebreathing Method for Non-Invasive Cardiac Output
Michael B. Jaffee, PhD., Novametrix Medical Systems, Wallingford CT

False Reliance on "Old" Non-Invasive Blood Pressure (NIBP) Readings: Human Error or Faulty Design?
V. Saglar, MD, Department of Anesthesiology, Yale University School of Medicine, New Haven CT

1	**Doerr, Harold** Baylor College of Medicine	Increasing Performance Through Simulator Training & Empirical Evaluation
2	**Raemer, Dan** MGH/CMS	Arterial-Line Monitoring System Simulation
4	**Hartmannsgruber, Max** Yale University School of Medicine	False Reliance on "Old" Non-Invasive Blood Pressure (NIBP) Readings: Human Error or Faulty Design?
5	**Hodgson, David** Kansas State University	Hypothermia in Anesthetized Cats Maintained on Either a Pediatric Circle or Non-Rebreathing Anesthetic Delivery Device
6	**Dobowy, Rebecca** Yale University School of Medicine	Evaluation of the User Interface for Electronic Medical Information Systems
7	**Lampotang, Sem** University of Florida	Interactive, Web-based Educational Simulation of an Anesthesia Machine
8	**Schwab, Wilhelm** University of Florida	Design Patterns and Reflective Programming
9	**Jaffe, Michael** Novametrix Medical Systems	Systematic Error Analysis of the Partial Rebreathing Method for Non-Invasive Cardiac Output
10	**Henrichs, Bernadette** Washington University School of Medicine	The Perceptiuons of Student Registered Nurse Anesthetists of the Anesthesia Patient Simulator Experience
11	**van der Aa, Jan** UF College of Medicine	A WEB-Based System for Resident and Faculty Evaluations
12	**Bliss, Alison** CS Mott Children's Hospital	ALARM (Anesthetic Logbook and Reporting Maintenance) An Example of an Electronic Logbook
13	**Viertio-Oja, Hanna** Datex-Ohmeda	New Method to Determine Depth of Anesthesia from EEG Measurements

14	**Drzewiecki, Ted** MetaSENSORS Inc.	Finally, an affordable, multipurpose Respiratory Gas Analysis Tool
15	**Wallroth, Carl**	A Single Anesthesia Workstation Standard
16	**Greenwald, Scott** Aspect Med. Systems	Development of the EEG Bispectrhl Index (BIS)
17	**Westenskow, Dwayne** University of Utah	Design and Evaluation of a 3D Integrated Display
18	**Loeb, Butch** University of Arizona	Laboratory Evaluation of an Auditory Display Designed to Enhance Intra-Operative Monitoring
19	**Glassenberg, Raymond** Northwestern University Medical School	The Virtual Larynx
20	**Barker, Steve** University of Arizona	Effects of Motion on the Performance of Sixteen Pulse Oximeters
21	**Jopling, Mike** St. Ann's Hospital	Continuous Monitoring of Total Circulating Blood Volume in Swing Using a Metabolizable Ammonium Solution Indicator and Fiber Optic Ammonia Sensor
22	**Blike, George** Dartmough Hitchcock Med. Center	A Descriptive Model of Pediatric Procedural Sedation Work Based on Viceo Analysis
23	**Jopling, Mike** St. Ann's Hospital	Effects of Motion on Three Pulse Oximeters Designed for Use in Motion During Stable Normoxia and Hypoxia
24	**Jopling, Mike** St. Ann's Hospital	Effects of Motion on Three Pulse Oximeters Designed for Use in Motion During Induced Transient Hypoxic Episodes
25	**Jopling, Mike** St. Ann's Hospital	Effects of Severe Motion on Three Pulse Oximeters Designed for Use in Motion During Induced Transient Hypoxic Episodes

STA 2000 Exhibitors and Supporters

We would like to thank the following companies for their support of the Society for Technology in Anesthesia. Please visit with their representatives during the exhibit times.

Agilent Technologies   Booth 8

Agilent Technologies will feature the ARI CompuRecord Anesthesia Information Management System, the most widely implemented departmental system in North America. The CompuRecord system is fully compatible with Agilent's own Component Monitoring System and Viridia 24, as well as other leading patient monitors.

ASA Overseas Training Program   Booth 6

The ASA Overseas Training Program is an all-volunteer effort of ASA which sends members to Ghana and Tanzania to teach anesthesia in these developing nations. We are always in need of new volunteers to help keep this program. A courtesy booth.

Aspect Medical Systems   Booth 5

The Aspect A-200 monitor with the Bispecvtral Index (BIS) provides a direct measure of the effects of anesthetics on the brain and consciousness. Clinical studies have shown positive outcomes from BIS monitoring including: reduced anesthetic drug usage, faster wake-up times, and improved recovery for patients undergoing general anesthesia.

Datex-Ohmeda   Booth 7

Datex-Ohmeda is a leading manufacturer of patient monitors, anesthesia machines, ventilators, information management systems and supplies for anesthesia and critical care. The company is present in over 100 companies worldwide. Datex-Ohmeda's vision is to supply technology that provides and uninterrupted flow of information in anesthesia and critical care. Ease of use, flexibility and providing the solution that best fits each customer's needs will continue to be the company's overriding goals.

FluidSense Corporation   Booth 2

Fluid Sense has invented an intravenous infusion pump that is significantly more sophisticated in its ability to manage information. Novel technologies provide significant improvements in flow range, size, weight and power consumption. FluidSense is actively working with anesthesiologists to develop systems to improve efficiency and effectiveness in the OR.

GE Marquette Medical Systems   Booth 11

GE Marquette Medical Systems is a leading manufacturer of medical
electronics equipment and systems for point-of-care vital signs monitoring,
respiratory and gas analysis systems, ventilator management, diagnostic
cardiology and clinical information systems. For more information, visit
www.mei.com.

Masimo Corporation   Booth 3

Masimo Corporation has developed a fundamentally unique pulse oximetry
technology capable of accurately measuring during patient motion, low
perfusion and intense light. Masimo SET ® technology is offered through
its licensees in a variety of different stand-along and fully configured
monitors. A complete line of SpO2 adhesive sensors is also available.

MedSim   Booth 13-14

MedSim provides the medical community with innovative ways of
teaching clinical skills to healthcare professionals by utilizing the Eagle
Patient Simulator and the UltraSim simulator. These high-fidelity systems
develop and sharpen students' skills ranging from basic procedures to
diagnosis and treatment of patient events to crisis resource management.

Novametrix   Booth 9

Novametrix is a leading designer, manufacturer and marketer of leading
edge non-invasive respiratory monitoring products. The product lines
include digital pulse oximetry, mainstream capnography, respiratory
mechanics and transcutaneous monitors. The new NICO2 non-invasive
cardiac output monitor, based on the Frick principle, provides continuous
measurement of cardiac output.

Parker Medical   Booth 12

Parker Medical will demonstrate three innovative products. (1) The
Parker Flex-Tip Endotracheal tube with a curved, soft flexible tip designed
to avoid trauma to the larynx and trachea (2) the Parker Intubation Guide,
designed to guide endotracheal tubes easily, rapidly and safely through the
glottis and (3) the Parker Intubating Videoscope which allows intubation to
be viewed through the ET tube and accomplished in seconds.

PICIS   Booth 4

Picis is a world-leader in the development and marketing of software and
Internet-based perioperative and critical care information systems that
automate the point of care in high acuity care areas of the healthcare
enteprise. PICIS' integrated solution automatically collects patient data
and organizes the caregiver's workflow in the ICU or OR environments.

Siemens Medical   Booth 10

Siemens Medical Systems will showcase its new anesthesia system KION.
A revolutionary system which provides proven gas delivery technology,
Infinity monitoring and Ergonomics. The electromedical division of
Siemens Medical Systems Inc. produces and markets patient monitoring,
Ventilators and Electrocardiology systems. Visit our booth and "see it all
come together."

Spacelabs Medical   Booth 1

Spacelabs Medical will demonstrate clinical information solutions designed
to help anesthesia practitioners manage patient care. Our Ultraview Care
Network Monitors allow you to review and control patient vital signs and
other information systems at the point of care. You will also see the
advantages of our Anesthesia Delivery System, Bispectral Index Module,
OR Chart, electronic documentation system and 5-agent Multigas Analyzer
– our complete perioperative clinical information system.