1998 Joint Meeting of Society for Technology in Anesthesia & Rochester Simulator Symposium

Simulation in Anesthesia

January 14-17, 1998
Tucson, Arizona
at the NEW Tucson Marriott University Park Hotel

Sponsored by Maricopa Integrated Health System in Educational Partnership with the Society for Technology in Anesthesia
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Yale University School of Medicine

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Society for Technology in Anesthesia

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Welcome to the 1998 Society for Technology in Anesthesia meeting. We are pleased to have this meeting a cooperative venture with the Rochester Simulator Symposium in order to provide our participants with the most up-to-date information about simulator technologies to teach, develop and investigate.

The local arrangements committee has set up a variety of field trips to stimulate your interest in both simulators and the uniqueness of the Southwest. The Friday reception to be held in the Arizona Historical Society will be an opportunity not to be missed.

If you are already a STA member, thank you for supporting this meeting. If you are not a member, we hope this experience will encourage you to become a member during the meeting. Members receive numerous benefits including meeting registration discounts, the Journal of Clinical Monitoring and STA's newsletter, Interface.

If you have any questions during the meeting, about STA or about the meeting itself, please contact someone at the registration booth. Our management team is ready to assist you.

Again, we are looking forward to an excellent meeting. I would like to personally thank my committee for their assistance and dedication to insuring that this joint effort is a success.

Dan Raemer
1998 Program Chair

1999 Society for Technology in Anesthesia Meeting
January 21-23, 1999
Hotel Del Coronado, San Diego California
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Exhibitor Information & Advertising White
MEETING LOCATION: All general sessions will be held in the Madera/Canyon Rooms. Exhibits will be next door in the Sabino/Pima rooms. Simulator Workshop rooms are listed in that section of the syllabus.

SIMULATOR WORKSHOPS: If you are interested in being a hands-on participant in one of the simulator workshops, please use the sign-up forms near the registration desk.

MEAL FUNCTIONS: All meal functions including continental breakfasts require visible name-tags and, if provided, tickets. There will be a charge for duplicate tickets issued.

SPECIAL NOTICE & ADA: Please refrain from smoking in the meeting and exhibit areas. If you need special assistance, for any reason, please discuss your needs with someone at the Registration Table.

FIELD TRIPS: If you have registered for a field trip, you will receive a pass/ticket with your registration packet. Please follow directions for each trip. Payment for admission fees must be paid prior to boarding transportation. Those attending the F-16 Flight Simulator or Cobra Helicopter Simulator may claim up to 4 additional hours on their daily CME log.

HISTORICAL SOCIETY FRIDAY EVENT: The AZ Historical Society is located across the street. Admission is with ticket only. A heavy cocktail buffet will be served. The Society’s gift shop will also be open during the reception time. Please feel free to wear your best western attire.

MESSAGES: General messages will be at our conference registration table.

CONFERENCE EVALUATION: Please fully complete the evaluation provided. This is a requirement in order to receive your CME and assists the Education Committee in planning future programs.

CME CERTIFICATES: Certificates and cognates will be available at the end of the meeting in return for a completed evaluation form. Certificates will not be mailed except by request and will be for the number of hours for which we have documented attendance.

ACCREDITATION
Maricopa Health System (MHS) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians.

MHS has designated this continuing medical education activity for 22 credit hours in Category 1 of the Physicians Recognition Award of the American Medical Association. Optional additional credits up to 4 hours for specific simulator field trips. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.
**Field Trips**

The sites for this year's tours range from an F-16 simulator to a combination zoo and botanical garden, the Sonora Desert Museum. Most have their own webpage to give you a good idea of what you will be seeing. All but the Air and Space Museum have docents to act as guides. Please mark the registration form with your selection. Transportation is provided as part of the registration fee. Entrance fees must be paid with registration. Guests and family are invited to participate. Tours with insufficient registration may be cancelled and any fees refunded. Those identified with * are eligible for CME credit.

**University of Arizona Mirror Casting Facility**

Maximum number: 40
Transportation: walk a short distance on campus
[medusa.as.arizona.edu/mlab/mlab.html](medusa.as.arizona.edu/mlab/mlab.html)

**Arizona Sonora Desert Museum**

Maximum number: unlimited & families welcome
Admission fee: $7.50
Transportation: Bus
[www.desert.net/museum/](www.desert.net/museum/)

**Pima Air & Space Museum**

Maximum number: unlimited & families welcome
Admission fee: $6.00
Transportation: Bus
[www.azstarnet.com/~pimaair](www.azstarnet.com/~pimaair)

**F-16 Flight Simulator***

Maximum number: 60
Transportation: Bus

**Cobra Helicopter Simulator***

at WAATS

Maximum number: 30
Transportation: Bus
[1998 Annual Meeting Society for Technology in Anesthesia](annualmeeting.org)

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**Wednesday, January 14, 1998**

5:30 pm  
Registration

6:00–9:00 pm  
Welcome Reception

**Thursday, January 15, 1998**

7:00 am  
Registration & Continental Breakfast in Exhibit Area

7:00 am–2:30 pm  
Exhibits Open

8:00 am  
Opening Remarks

Dan Raemer, Ph.D., 1998 Meeting Chair
Jan Ehrenwerth, M.D., STA President
Steve Barker, Ph.D., Tucson Host

8:15–9:45 am  
Panel: Human Performance Aspects of Simulation
Moderator: David Gaba, M.D.
Panelists:
Colin MacKenzie, M.D.
Steve Howard, M.D.
Kent Garman, M.D.

9:45–10:15 am  
Coffee Break in Exhibit Area

10:15 am–11:45 pm  
Panel: Educational Aspects of Simulation
Moderator: Julie Tome, M.D.
Panelists:
Steven Small, M.D.
Karen Steckner, M.D.
Randy Steadman, M.D.

12:00–12:45 pm  
Lunch

12:45–1:30 pm  
Keynote Lecture: Human Factors in Anesthesia Mishaps
David Woods, Ph.D.

1:45–3:00 pm  
Scientific Posters & Discussion
Moderators:
Matt Weinger, M.D.
Sean Lampotang, Ph.D.
Richard Blum, M.D.
Jeff Kleinwaks, Ph.D.

3:00–5:00 pm  
Simulator Workshops
Moderators:
Dwayne Westenskow, Ph.D.
Andy Lee, M.D.
Louis Oberndorf
Matt Kurrek, M.D.

Workshops:
Equipment Trouble-Shooting:
David Stern, M.D., University of Rochester

Ovarian Cancer for Ex-Lap and Debulking:
Adam Levine, M.D., The Mount Sinai Hospital

Critical Events in OB:
Rita Patel, M.D., University of Pittsburgh/
Magee Women's Hospital

Neurotrauma after a Recreational Accident:
Chris Lussi, M.D., University of Erlangen
Friday, January 16, 1998

7:00 am - 2:00 pm  Exhibits Open

7:00 - 8:00 am  Continental Breakfast in Exhibit Area

8:00 - 9:15 am  Panel: Anesthesia in Remote Locations
Moderator: Nik Gravenstein, Jr., M.D.
Panelists: Mike Wall, M.D., George Topulos, M.D.
Mike Good, M.D., Gordon Gibby, M.D.

9:15 am  Scientific Posters and Discussion

10:15 am  Simulator Workshops
Moderators: Dwayne Westenskow, Ph.D.
Andy Lee, M.D.
David Stern, M.D.
Louis Oberndorf
Matt Kurrek, M.D.

Workshops:
ACLS Megacode Training: W. Bosseau Murray, M.D.
Pennsylvania State College of Medicine
TURP Syndrome: Donald Pierce, M.D., Vanderbilt University
Blunt Trauma: Evaluation and Management in the ER:
Julie Bock, M.D.
David Murray, M.D.
Washington University Clinical Simulation Center
The Simulator as an Evaluative Tool:
Test and Compare Your Skills:
Matt Kurrek, M.D.
Hugh Devitt, M.D.
University of Toronto
Malignant Hyperthermia:
Per Foge Jensen, M.D.
University of Copenhagen
Differential Diagnosis of High Airway Pressure
Butch Loeb, M.D.
University of Arizona
Richard Botney, M.D.
Oregon Health Science University

12:15 - 1:00 pm  Lunch

1:00 - 1:45 pm  Keynote Lecture - Nitric Oxide, A Selective Pulmonary Vasodilator
Warren Zapol, M.D.

2:00 - 6:00 pm  Field Trips
Host: Butch Loeb, M.D.

6:30 - 10:00 pm  Evening activity
Arizona Historical Society Museum
Steven Barker, Ph.D.

Saturday, January 17, 1998

7:30 - 10:30 am  Exhibits Open

7:30 - 8:00 am  Continental Breakfast in Exhibit Area

8:00 - 9:30 am  Panel: Simulation in Anesthesia Pharmacology Development
Moderator: Dan Raemer, Ph.D.
Panelists: Joseph Reves, M.D.
Robert Butterfield
Iain Glenn, Ph.D.
Donald Stanski, M.D.

9:30 - 10:00 am  Coffee in Exhibit Area

10:00 - 11:30 am  Panel: Computer Education to Teach Technology - The Future
Moderator: Julian Goldman, M.D.
Panelists: Howard Schwid, M.D.
Karl Reining, Ph.D.

11:30 am - 1:00 pm  Lunch "on your own"

1:00 - 1:45 pm  STA Business Meeting

1:45 - 3:00 pm  Anesthesia Software Exhibition
Moderator: James Philip, M.D.

3:00 - 4:30 pm  Panel: The European Simulation Experience
Moderator: Dr. David Wilkins
Panelists: Dr. Vimal Chopra
Dr. Peter Foge Jensen
Dr. Aidan Byrne
Dr. Christoph Lussi
Dr. Andrew McIndoe
Dr. Daniel Scheidegger

4:30 - 5:00 pm  Course Evaluation and Close

1998 Program Committee

Dan Raemer, Chair
David Feinstein, Vice Chair
Steve Barker, Tucson Host
Butch Loeb, Tucson Activities
Lindsey Hensen, Andy Lee, Dwayne Westenskow,
David Seitzman, Matt Weling, Sem Lampotang, Lou Oberndorf, Jeff Kleinwaks,
Richard Blum, Matt Kurrek, David Stern

We are especially grateful to the members of the Rochester Simulator group
who have participated in the planning of this joint meeting.

1998 Annual Meeting Society for Technology in Anesthesia
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SUPPORTERS & EXHIBITORS
With special thanks to the following companies whose involvement with STA has made this annual meeting possible.

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<tr>
<td>Aspect Medical Systems</td>
<td>2 Vision Drive, Natick, MA 02181</td>
</tr>
<tr>
<td>Cook Critical Care</td>
<td>925 S. Curry Pike, PO Box 489, Bloomington, IN 47402</td>
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<tr>
<td>Datex Engstrom, Inc.</td>
<td>2 Highwood Drive, Tweksbury, MA 01876</td>
</tr>
<tr>
<td>Eagle Simulation, Inc.</td>
<td>P.O. Box 2367, Binghamton, NY 13902-2367</td>
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<tr>
<td>GlaxoWellcome</td>
<td>Five Moore Drive, PO Box 13398, Research Triangle Park, NC 27709</td>
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<tr>
<td>Hewlett-Packard Company</td>
<td>MS 375, 3000 Minuteman Rd., Andover, MA 01810</td>
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<tr>
<td>Marquette Medical Systems</td>
<td>W. 8200 W. Tower Ave., Milwaukee, WI 53223</td>
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<tr>
<td>Medical Education Technologies, Inc.</td>
<td>6000 Fruitville Rd., Sarasota, FL 34232</td>
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<td>North American Drager</td>
<td>3136 Quarry Road, Telford, PA 18969</td>
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<tr>
<td>Novametrix Medical Systems</td>
<td>5 Technology Drive, Wallingford, CT 06482</td>
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<tr>
<td>Ohmeda Pharmaceuticals</td>
<td>2010 Shadow Canyon Rd, Auton, CA 93510</td>
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<tr>
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<td>8329 Grubb Rd. #202, Silver Spring, MD 20910</td>
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<td>Siemens Medical Systems, Inc.</td>
<td>14 Electronics Ave, Danvers, MA 01923</td>
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<tr>
<td>Spacelabs Medical</td>
<td>15220 NE 40th St., Box 97013, Redmond, WA 98073</td>
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<tr>
<td>University of Arizona Health Sciences</td>
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<tr>
<td>VIA Medical Corp.</td>
<td>11425 Sorrento Valley Rd., San Diego, CA 92121</td>
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<tr>
<td>Walrus Division of Medical Parameters Inc.</td>
<td>30 E. Commerce Way, Woburn, MA 01801</td>
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SOFTWARE DEMONSTRATIONS

* These projects are included in the peer-reviewed abstract section of the syllabus

Computer simulation of cerebrovascular responses during induction of anesthesia: comparison of thiopental, propofol, and etomidate. (*1)
Alex Bekker, New York

Object display improves performance in recognizing shock in a real-time monitoring task compared with a standard display. (*2)
George Blike, Lebanon NH

A PC-based Training Program for Evita Intensive Care Ventilators
Bonk, R, Elferich, M. Rankenberger, H.Fachhochschule L, Institute of Biomedical Engineering

Gas Exchange Kinetics in Anesthesia during Non-Steady State - Ventilation/Perfusion Relationships
Peter H. Breen, MD, FRCPC, Orange, CA

Stelpump - software to administer target-controlled infusions
Prof. Johan Coetzee, Department of Anesthesiology, South Africa.

P-K Sim a pharmacokinetic simulation
Richard H. Epstein and Dick Bartkowski

Subjective time flow: Effects of Pre-operative Medication and General Anesthesia (*9)
Stewart Hameroff, Tucson

AlgoSim presents the American Society of Anesthesiologists (ASA) difficult airway algorithm
Robert C. Jones, M.D., David Grant Medical Center, Travis AFB, CA, George J. Sheplock, M.D., Indiana University School of Medicine, Indianapolis, IN
Michael S. Goldstoff, M.D., Schenectady, NY

An ICP model for the Human Patient Simulator
Samsum Lampotang

All-purpose Questionnaire Algorithm for Manual Input of General Information in Anesthesia: the QA-1
Yoshimitsu Sanjo, Ph.D., Kazuyuki Ikeda, MD, FRCA, Hamamatsu University School of Medicine

Flow-directed Pulmonary Artery Catheter Guided Resuscitation Software as Outcome Measure & Teaching Tool (*31)
William Schiller, Phoenix
Secured WWW Access to Computerized Preanesthetic Evaluations (*32)
Wilhelm K. Schwab, Ph.D. University of Florida

Pen-based recordkeeper (*33)
Wilhelm K. Schwab, Ph.D., University of Florida

Indoes Dynamic Link Libraries Create a New Interface Tool for BODY Simulation: Its use in trauma simulation (*36)
N. Ty Smith and Ken Starko

Gas Man uses Exponential Integration and runs under Win 95, Mac68xx and Mac PowerPC Operating Systems and allows Weight scaling from 50 g to 500 Kg, Body composition and flow adjustment, Multiple Gases, and Multiple overlays
James H. Philip MEE, MD, Med Man Simulations Inc. and Brigham and Women's Hospital, Harvard Medical School

New Approaches to Visualization of Phenomena in Inhalational Pharmacokinetics Views of Inhalation Anesthesia Kinetics (*23)
Jeff E. Mandel MD MS, James H. Philip MEE, MD, Brigham and Women's Hospital, Harvard Medical School

Use of a PC-Based Expert System to Assist Primary Care Physicians in the Management of Chronic pain (*43)
Matt Weinger, San Diego.
ASPECT MEDICAL SYSTEMS, Inc.
The Aspect A-1050 monitor with the Bispectral Index™ (BIS) provides a continuous process EEG parameter that provides a measure of the state of consciousness during administration of anesthetics and sedatives. BIS is designed to correlate with hypnotic endpoints and track changes in the effects of anesthetics on the brain.

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AS/3 Anaesthesia Delivery Unit (ADU) (Pending FDA 510k clearance) integrated fresh gas delivery, agent vaporizer and ventilator. An ergonomic anaesthesia workstation

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EAGLE SIMULATION, Inc. See also full page ad
The Eagle Patient Simulator is a fully interactive, mannequin based training system capable of realistically simulating the look, symptoms and responses of a human patient.

HEWLETT-PACKARD CO
Hewlett Packard will exhibit the HP Anaesthesia component monitoring system with integrated anaesthetic gas analysis as well as new technologies in anaesthesia information management systems.

MARQUETTE MEDICAL SYSTEMS
Marquette Medical Systems provides diagnostic, anaesthetic agent and vital signs monitoring and clinical information solutions for the healthcare market. Marquette's Unity Network employs IEEE industry standards and TCP/IP protocols, making the Unity Network the only network that will interface with all major clinical hospital information centers.

MEDICAL EDUCATION TECHNOLOGIES, Inc.
Human Patient Simulator (HPS) physically represents the patient including clinical features and monitored parameters via the use of sophisticated psychological and pharmacological models.

NORTH AMERICAN DRAGER
North American Drager is a leader in design, engineering and manufacturing of Anesthesia Systems. Patient Monitors and Data Management Systems for the operating room.
NOVAMETRIX MEDICAL SYSTEMS Inc.

Novametrix is a leading manufacturer of capnographs, plus oximeters, transcutaneous and respiratory mechanics monitors. The TIDAL WAVE™ capnograph and Vent ™ respiratory mechanics monitor are the latest in hand-held technology from Novametrix. The TCO2M transcutaneous monitor, features on-screen trending at the bedside. The VENTRAK and the CO2SMO+™ combine mainstream capnography with respiratory mechanics to provide important parameters such as CO2 Production and Deadspace calculations.

OHMEDA

Monitoring and delivery device for inhaled Nitric Oxide. "Ino-Vent." Ohmeda will display the MOD FE anesthesia machine featuring the new Smart-Vent ventilator.

PICIS

Picis is a world leader in the development, distribution and installation of critical care information systems which automate the point of care in very high acuity care areas of the healthcare enterprise. Picis CareSuite 97 includes: Chart+™, which uses patented technology to connect to medical devices and computing systems: Visual Care™ which automates the work flow and clinical documentation of care providers and HospiAudit™, the database query and reporting tools for quality assurance, cost-tracking and clinical research. All Picis products are native, 32-bit Windows NT applications and use Microsoft SQL Server™ and Microsoft Internet Explorer.

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Come see the latest technology for the continuum of care at the Siemens booth. We are demonstrating our revolutionary new twist in anesthesia management. We are also showcasing our INFINITY monitoring system. Please stop by for a demonstration.

SPACELABS MEDICAL

Spacelabs Medical will demonstrate monitoring and clinical information products designed to support the neurology environment. This includes modular EEG monitoring for integrating with other vital signs bedside monitoring, our new Bispectral Index (BIS) module to titrate and assess the levels of sedation/awareness in ICU patients. The EEG and BIS modules allow full bedside monitoring and network capabilities for neurological consultations.

VIA MEDICAL CORPORATION

The VIA system in an ex-vivo blood chemistry monitor which measures blood gases, electrolytes and glucose at the point-of-care. A blood sample is withdrawn automatically from an arterial or venous line, a measurement is performed and the blood reinfused all within 90 seconds.

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