



The Society for Technology in Anesthesia 7th Annual Meeting

The Ft. Lauderdale Marina Marriott
Ft. Lauderdale, Florida

Invention, Creativity & Technology

January 16, 17, & 18, 1997



Sponsored as a continuing medical
education service of
Maricopa Health System
in conjunction with
The Society for Technology in Anesthesia

Welcome to our Scientific Conference

January, 1997

Dear Colleague:

On behalf of the Program Committee, we would like to welcome you to sunny Ft. Lauderdale and the Annual Meeting of the Society for Technology in Anesthesia.

We feel our Society is unique in that it combines the strengths of the clinical practice of anesthesiology with those of industry counterparts. These singular contributions facilitate a vibrant meeting with an important exchange of ideas and concepts that ultimately improve the care of patients.

Relying on these strengths, the theme of this year's meeting is Invention, Creativity and Technology. We have brought together a Faculty who are experienced in the creative and inventive processes. We will all learn from their successes and failures! Since regulation is a key part of the process of bringing technology to patient care, one of the panels will focus on this important topic. Finally, since technology has its "dark" side, our Saturday morning panel will explore in graphic detail the liabilities of these advances.

In conjunction with our theme, workshops will be conducted with industry and government leaders that will allow each of our attendees to take a concept (device, drug, software, etc.) from idea to the marketplace. These projects will be presented on Saturday morning.

This year, an excellent group of scientific papers and exhibits will be presented. To continue the annual "hands on" feature of the meeting, Drs. Keith Ruskin and Tom Engel will conduct teaching sessions on how to make a CD ROM. Judging by the popularity of these sessions at the previous meeting early sign up is suggested.

The San Diego meeting, last year, set a standard for field trips that will be hard to match. But, the Program Committee has risen to the challenge. On Friday afternoon, three trips have been arranged: the National Hurricane Center, Bertram Yacht Company and Heico Jet Avion. Since space is limited on each of these excursions, please sign up as soon as possible.

Finally, since social activities are an important part of the meeting, this year we are having a dinner cruise Friday night on the Intercoastal Waterway. We promise NO speeches !!!

Before closing we would like to thank the members of our program committee who have contributed ideas and time to making the meeting a success: Drs. Charlotte Bell, Jan Ehrenwerth, Al Perrino and Keith Ruskin. In addition Dr. David Wong deserves a special thank you for organizing the scientific program. We would also like to recognize the efforts of Mrs. Glenda Davis whose wisdom and sense of humor pulled together all the facets of the Annual Meeting.

Paul Barash
Jane Fitch

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1997 Annual Meeting Committee

Conference Chairman:

Paul Barash

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Jane C.K. Fitch

Program Organizing Committee:

Charlotte Bell
Jan Ehrenwerth
Al Perrino
Keith Ruskin

Oral & Poster Presentation
& Scientific Exhibits:

David H. Wong

Meeting Program - Thursday

Thursday, January 16, 1997

7:00 Registration & Continental Breakfast

7:00-12:30 Exhibits and Demonstrations

8:00 Opening Remarks

Paul G. Barash

Allen K. Ream

Jan Ehrenwerth

8:15 *The Engines of Our Ingenuity: The Process of Invention*

Moderator: Jerry M. Calkins

JOHN B. LESLIE *Big Brother's concerns partnering with industry.*

WARREN JEWETT *The route from ideas to products.*

CHARLES T. JOYNER *Let me tell you about my invention...*

SCOTT AUGUSTINE *I've got this great idea...now what do I do?*

JOHN LEINHARD *Business and the inventive muse.*

10:45 Coffee Break at Exhibits

*Psychologic profile of risklessness/
risk taking → innovators
inventors*

11:00 Create a CD-Rom

TOM ENGEL

KEITH RUSKIN

*Book: Tenner ^{Evangel of} Technology - when things
fight back.*

Scientific Papers

DAVID H. WONG

Oral Presentations

The parents of invention are: Pleasure + Freedom

12:30 Lunch

1:30 Workshop #1:
Do you have your MBA?

3:00 Coffee Break at Exhibits

3:30-5:00 Create a CD-Rom

TOM ENGEL

KEITH RUSKIN

Scientific Papers

DAVID H. WONG

Poster Presentations

Meeting Program - Friday

Friday, January 17, 1997

- 7:00 Continental Breakfast
- 7:00-12:30 Exhibits and Demonstrations
- 8:00 *Standards, Promises, and Problems*
 Moderator: J.S. Gravenstein
 PETER CARSTENSEN *Why are standards introduced?*
 PAUL STOLZER *What impact do standards have on product liability?*
 JAN EHRENWERTH *Who introduces standards?*
 ALLEN K. REAM *What effects do standards have?*
- 10:00 Coffee Break at Exhibits
- 10:30 Workshop #2
 Dr. Kessler is on the phone...
- 12:30 Lunch
 STA Annual Business Meeting
- 2:00 Field Trips *Requires sign-up at registration desk prior to event.*
 Bertram Yacht Factory
 Heico Jet Avion
 National Hurricane Center
- 6:30-11:00 Dinner Cruise on the Paddlewheel Queen
 along the Intercoastal Waterway

Meeting Program - Saturday

Saturday, January 18, 1997

- 7:00 Continental Breakfast
- 7:00-10:30 Exhibits
- 8:00 *Technodeath: The dark side of technology*
 Moderator: Alan W. Grogono
 JOHN LEINHARD *Technology and dying*
 [TBA] *The Ebola virus*
 CHARLES WETLI *High tech death*
- 10:00 Coffee Break at Exhibits
- 10:30 Workshop #3
 The envelope please...
- 12:30 Adjournment

STA 1997 Workshop Goals and Objectives

Participants will gain an appreciation for what's involved in developing an idea and then seeing the idea through to the marketplace.

There will be six different teams with each team having two team leaders, one from the anesthesia community and one from industry. Devices will assigned to each group.

Each of the first two workshops will begin with the entire group coming together for words of wisdom from the specialists in the areas to be covered for each particular day. The group will then break into its perspective teams to go to work. The experts will be available for consultations during the workshop sessions.

The third and final workshop will first allow the individual teams to meet. the majority of the last workshop will allow each team to present their product to the entire group. Finally the entire group will vote on the "most likely to succeed" product, and awards will be presented.

Workshop Team Leaders

	ANESTHESIA PARTNER	INDUSTRY PARTNER
TEAM #1	Rob Coleman	Fritz Fred Stawitcke (HP)
TEAM #2	Jeff Feldman	Sandy Eames
TEAM #3	Julian Goldman	Bill Wood (Maguette)
TEAM #4	Dan Raemer	Ross Zoll (Zoll medical)
TEAM #5	David Seitman	John Robinson
TEAM #6	Matt Weinger	Doug Scott (Obineda)

Feldman 806

Workshop Schedule

Thursday, January 16

1:30-3:00 p.m. Workshop #1 **Do you have your MBA???**
Developing the product.

1:30-1:50 pm Entire group meets together for speaker presentations

So you have an idea - now what???

Words of wisdom from physician inventors.

Doing your homework.

Assessing the market and developing your business plan.

The M word.

Funding your venture.

1:50-3:00 pm Individual teams meet

Workshop Schedule

Friday, January 18

10:30 am - 12:30 pm Workshop #2 Dr. Kessler is on the phone...

10:30-10:50 am

Entire group meets together for speaker presentations.

Nitty-gritty details.

Product design.

Keeping the FDA happy.

Clearing regulatory issues

Protecting your product.

Legal issues, patents and copyrights.

Sink or swim.

Marketing your product.

10:50 am - 12:30 pm

Individual teams meet.

Workshop Schedule

Saturday, January 18

10:30 am - 12:00 pm Workshop #3 The envelope, please...
Selling your product.

10:30-10:45 am Individual teams meet.

10:45-11:45 am Individual team presentations.

11:45 am - 12:00 pm Voting by entire group and presentation of awards.

Oral Presentations

**Thursday, January 16, 1997
11:00 - 12:30**

Closed loop intravenous anesthetic administration.

Rob Roy

A computer model of a linearized 2 compartment lung and distribution of ventilation during mechanical ventilation.

Sem Lampotang

Outpatient preanesthetic evaluation using an interactive relational database in a preadmission testing center.

Richard A. Wiklund, MD; Robert T. McGovern

*Award ** **Arterial-pulse oximetry loops - A dose response curve for phenylephrine.**

Kirk Shelly, Bosseau Murray

Novel graphical display of hemodynamics improves problem/pattern recognition and performance when compared to standard alphanumeric displays.

George T. Blike, Gene W. Wu

*Award ** **Transesophageal atrial pacing vs. drugs for disadvantageous bradycardia - the TERST trial.**

John Atlee

Poster Presentations

Thursday, January 16

3:30 - 5:00

Non-invasive cardiopulmonary function assessment system.

M. Fontes, J. Adams, E. Rosow, J. Mathew, A.C. DeGraff

Benefits of placing a mechanical engineer in an academic department of anesthesiology.

David A. Trevas, Jeffrey Katz

Has an important clinical monitor been neglected?

Robert Loeb

Development of a volatile anesthetic waste cost monitor.

Tammy Euliano

Educational simulation of the electroencephalogram.

Nicole de Beer, Willem L. van Meurs, Dietrich Gravenstein, Michael L. Good

Evaluation of electrosurgical interference to low-power spread spectrum local area net transceivers.

Gordon L. Gibby

Exact and efficient simulation of differential equations: Demonstration with a pharmacokinetic model.

Eric Nikkelen, Willem van Meurs

Noninvasive thoracic bioimpedance cardiac output from ensemble averaged impedance cardiograms: Comparison with thermodilution.

Dinesh G. Haryadi, Dwayne R. Westenskow

Doe suturing an i.v. catheter increase the force needed to pull out the i.v.?

David H. Wong

Actual and predicted anesthetic concentrations of sevoflurane and isoflurane as simulated by Gasman.

Dorene O'Hara, Jim Philip

SICUM - A new monitoring system for presenting hemodynamic information.

Ola Sveen

Accuracy of static flow, column, pressure, CO₂, SpO₂ measurements.

Method to increase reliability of esophageal oximetry.

John Atlee, Stephen Gorski

Poster Presentations (continued)

Point electrodes reduce esophageal pacing thresholds.

John Atlee, Stephen Gorski

Carbon monoxide and acetone accumulation during low and high flow anesthesia.

Joseph Cravero

Survey of low flow anesthesia use in the United States.

Joseph Cravero

Integrated graphic anesthesia data display.

Peter Michaels, Dwayne Westenskow

A model based analysis for wash-in and -out of anesthetic vapor by conventional anesthesia circuit excepting CO₂ absorber.

Yoshimitsu Sanjo

Expanding the capabilities of time share mass spectrometry by substituting the new Marquette RAMS mass spectrometer into an existing Advantage system.

William Paulsen?

Direct on-line measurement of anesthetic gas and flow for anesthetic cost.

David Maguire

Fluid warming at low flow rates using a hot air warming blanket.

David Maguire

Cardiovascular pressure dimension analysis system.

Dr. Mathew

Evaluation of a new esophageal Doppler cardiac output monitor.

Kai Kuck

Square wave analysis of surface electrode impedance.

Dr. Watkins-Pitchford

GasMan Update.

Jim Philip, MD, Department of Anesthesiology, Brigham & Women's Hospital, Boston, MA.

A comparison of two tests of platelet function during cardiopulmonary bypass.

L. Shore-Lesserson, MD; Kaya Sarier, MD; Marietta DePerio, RN; T. Ammar, MD

Cardiopulmonary Bypass.

L. Shore-Lesserson, MD; Kaya Sarier, MD; T. Ammar, MD; Marietta DePerio, RN

Scientific Exhibits

The automated bispectral index consultant.

Richard H. Epstein, Peter S. Sebel

Inexpensive method to provide Internet access.

Gordon L. Gibby

Performance validation of a respiratory profile monitor - COSMO+.

Michael Jaffe

Clinical Testing of a respiratory profile monitor - COSMO+.

Michael Jaffe

Gas man overcomes stiff-integratttion oscillation using exponential integraton

XB Ji, Jim Philip, HM Franklin

An interactive, hypermedia approach to understanding the anatomy, physiology and anesthetic implications of congenital heart disease.

Andrew F. Stasic, Chalapathi C. Rao, George J. Sheplock

Commercial Exhibitors

Aspect Medical Systems
2 Vision Drive
Natick, MA 01760
TEL: (508)653-0603

Augustine Medical, Inc.
10393 W. 70th Street
Eden Prairie, MN 55344
TEL: (612)947-1234

CAE Electronics Inc.
P.O. Box 957
Binghamton, NY 13901
TEL: (607) 779-6066

Clinical Information Solutions, Inc.
30 Willow Street
North Andover, MA 01845
TEL: (313) 482-8931

Datex Medical Instrumentation, Inc.
2 Highwood Drive
Tewksbury, MA 01876
TEL: (508) 640-0406

Hewlett Packard Inc.
3000 Minuteman Road
Andover, MA 01810
TEL: (508) 659-3824

Marquette Electronics
8200 W. Tower Avenue
Milwaukee, WI 53223
TEL: (414) 362-2410

North American Dräger
3136 Quarry Road
Telford, PA 18969
TEL: (215) 721-5404

Novamatrix Medical Systems, Inc.
1 Barnes Industrial Park Road
Wallingford, CT 06492
TEL: (203) 284-2536

Ohmeda Corporation
3030 Ohmeda Drive
Madison, WI 53707
TEL: (608) 221-1551

SpaceLabs Medical, Inc.
P.O. Box 97013
Redmond, WA 98073-9713
TEL: 206-882-3700