
STA
Featuring a Joint Session with the Foundation for Anesthesia Education and Research
Society for Technology in Anesthesia
Syllabus
2013 Annual Meeting
January 9-12, 2013
Phoenix, Arizona
Royal Palms Resort & Spa
5200 East Camelback Road, Phoenix, Arizona 85018
6737 W. Washington St. Suite 1300 Milwaukee, WI 53214 | 414-389-8600 | www.stahq.org

Welcome

Dear STA Annual Meeting Attendee,

On behalf of the Society for Technology in Anesthesia (STA) Board of Directors, we would like to welcome you to this year's STA Annual Meeting.

The STA Annual Meeting affords an opportunity for clinicians, technicians, engineers and industry specialists at all levels to meet and exchange ideas on the future of anesthesia and healthcare related technologies. We hope that you take advantage of this unique venue and take time to meet with your fellow attendees during the meeting.

Again this year, we are very excited to be partnering with the Foundation for Anesthesia Education and Research (FAER) to present a special session on, "Regulate or Innovate: Can We Do Both?"

We would like to thank Dr. Jesse M. Ehrenfeld, 2013 Meeting Chair, for organizing the meeting and securing the outstanding faculty, and all of those whom have generously given their time to prepare and present their lectures and demonstrations.

With the increasing fiscal and political challenges that face healthcare and industry, STA will continue to support innovation in the quest to create sustainable health systems that meet the needs of our patients. We hope you find the meeting topics and discussions timely and informative.

Thank you for joining us. We look forward to a successful meeting.

George Blike, MD,
President
Society for Technology in Anesthesia

Mission Statement

The Society's mission is to improve the quality of patient care by improving technology and its application. The Society promotes education and research, collaborates with local, national, and international organizations, sponsors meetings and exhibitions, awards grants, and recognizes achievement.

Save the Date!

2014 Annual Meeting
January 15-18, 2014
Orlando, Florida USA

Accreditation Information

Activity Overview:
The STA 2013 Annual Meeting will address the use and implementation in consideration of bringing research to market, technology and safety, closed loop anesthesia management, non-invasive hemodynamic monitoring and Anesthesia Information Management Systems (AIMS).

Target Audience:
This program is designed for a national and international audience of physicians, engineers and/or other practitioners in the field of anesthesia seeking an update on the current state of anesthesia technology.

Practice Gap:
The program is designed to address gaps in knowledge and techniques by exposing physicians to challenges and complications when using and implementing various technologies into ones practice.

Educational Objectives:
As a result of participation in this CME activity, learners should be able to:

1. Recognize problems and potential solutions in the anesthesia work space with a special emphasis on exploring new developments in drug delivery, information management, and patient monitoring;
2. Recognize key factors required for effective translational medical research, including management of conflict of interest issues and implementation of successful strategies to develop technologies;
3. Recognize barriers and potential solutions in order to bring new and safe technologies to the clinical practice with a special emphasis on patient monitoring, information management, and patient safety;
4. Discuss opportunities to advance and enhance environmentally responsible practices within anesthesia care; and
5. Discuss opportunities to advance automated anesthesia systems with the goal of improving patient safety.

Accreditation Statement:
This activity has been planned and produced in accordance with the Accreditation Council for Continuing Medical Education (ACCME) Essentials and Standards relating to continuing medical education. This activity is jointly sponsored through the International Anesthesia Research Society (IARS) and the Society for Technology in Anesthesia (STA). The IARS is accredited by the ACCME to provide continuing medical education for physicians.

Continuing Medical Education Credit
The IARS designates this Live Activity for a maximum of 16 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Disclosure
The IARS complies with ACCME Essential Areas, Standards and Policies regarding industry support of CME Activities. The IARS has implemented policies and practices with respect to the planning, implementation and presentation of this activity to identify and resolve potential conflicts of interest for all persons in a position to control content.

Planning Committee & Faculty

Planning Committee

George Blike, MD
Dartmouth-Hitchcock Medical Center
- *No Disclosures*

Maxime Cannesson, MD, PhD
University of California Irvine
- *Consultant for Edwards Lifesciences, Masio Corp., Covidien, Philips Medical System, Draeger*
- *Speaker's Bureau for Edwards Lifesciences, Masimo*
- *Grant/Research Support from Edwards Lifesciences, Masimo*
- *Shareholder for Sironis*
- *Intends to discuss investigational products: Closed loop systems for fluid management and anesthesia management*

John Doyle, MD, PhD
Cleveland Clinic
- *No Disclosures*

Jesse Ehrenfeld, MD, MPH
Vanderbilt University
- *No Disclosures*

Stephanie Moffett
Society for Technology in Anesthesia
Account Coordinator
- *No Disclosures*

Jane Svinicki, CAE
Society for Technology in Anesthesia
Executive Director
- *No Disclosures*

Faculty (with disclosures)

Aymen Alian, MD
Yale University School of Medicine
- *No Disclosures*

John Mark Ansermino, MBBCh
University of British Columbia
- *Consultant for GE Healthcare*
- *Shareholder for LionsGate Technologies*

George Blike, MD
Dartmouth-Hitchcock Medical Center
- *No Disclosures*

Maxime Cannesson, MD, PhD
University of California Irvine
- *Consultant for Edwards Lifesciences, Masio Corp., Covidien, Philips Medical System, Draeger*
- *Speaker's Bureau for Edwards Lifesciences, Masimo*
- *Grant/Research Support from Edwards Lifesciences, Masimo*
- *Shareholder for Sironis*
- *Intends to discuss investigational products: Closed loop systems for fluid management and anesthesia management*

Christina DeMur, MS
Draeger Medical
- *No Disclosures*

Bimal Desai, MD, MBI
The Children's Hospital of Philadelphia
- *No Disclosures*

John Doyle, MD, PhD
Cleveland Clinic
- *No Disclosures*

Talmage Egan, MD
University of Utah School of Medicine
- *Consultant for Ethicon*
- *Shareholder for Medvis*
- *Intends to discuss investigational products*

Faculty cont.

Jesse Ehrenfeld, MD, MPH
Vanderbilt University
- *No Disclosures*

David Feinstein, MD
Beth Israel Deaconess Medical Center
- *No Disclosures*

Jeffrey Feldman, MD, MSE
Children's Hospital of Philadelphia
- *Consultant for Covidien*

Julian Goldman, MD
Massachusetts General Hospital
- *No Disclosures*

Thomas Hemmerling, MD
McGill Montreal General Hospital
- *No Disclosures*

Heike Hofmann, PhD
Iowa State University
- *No Disclosures*

Kenneth Holroyd, MD
Vanderbilt University
- *No Disclosures*

Sachin Kheterpal, MD, MBA
University of Michigan
- *No Disclosures*

Kai Kück, PhD
Draeger
- *Employed by Draeger*

Jeff E. Mandel, MD, MS
University of Pennsylvania
- *Speakers Bureau for Integrity CE*
- *Grant/Research Support from Masimo*

Susan McGrath, PhD
Dartmouth-Hitchcock Medical Center
- *No Disclosures*

Michael O'Reilly, MD
Masimo and University of California Irvine
- *Shareholder for Masimo*
- *Royalties/employee for GE Healthcare*
- *Intends to discuss investigational products*

Michael Pinsky, MD
University of Pittsburgh
- *Grants/Research Support from NIH R01*
- *Intends to discuss investigational products*

Mohamed Rehman, MD
Children's Hospital of Philadelphia
- *No Disclosures*

David Reich, MD
Mount Sinai Medical Center
- *Grants/Research Support from Covidien*

Joseph Rinehart, MD
University of California Irvine
- *Shareholder for Sironis*
- *Intends to discuss investigational products*

Brian Rothman, MD
Vanderbilt University Medical Center
- *No Disclosures*

Kirk Shelley, MD, PhD
Yale University School of Medicine
- *Intends to discuss investigational products*

Greg Spratt, RRT, CPFT
Covidien/Oridion Capnography
- *Employee of Covidien – Oridion*

William Stead, MD
Vanderbilt University Medical Center
- *Shareholder for Healthstream*
- *Receives Royalties for McKesson and ICA*

Andreas Taenzer, MS, MD, FAAP
Dartmouth Hitchcock Medical Center
- *No Disclosures*

Patrick Tighe, MD, MS
University of Florida
- *No Disclosures*

Jonathan Wanderer, MD
Vanderbilt University
- *No Disclosures*

Matthew Weinger, MD
Vanderbilt University Medical Center
- *No Disclosures*

Schedule of Events

Wednesday, January 9, 2013

0700 – 0800 **Challenges and Opportunities Registration & Continental Breakfast**
Room: Estrella West

0800 – 1200 **Challenges and Opportunities in Developing Anesthesia Products**
(for industry)
Room: Estrella West
Jeffrey Feldman, MD, MSE
David Feinstein, MD

0800 – 1700 **Exhibitor Registration & Set-up**

1200 – 1315 **Challenges and Opportunities & STA Board of Directors Lunch**
Room: Estrella West

1315 – 1700 **A.I.M.S. Workshop**
(additional registration required)
David L. Reich, MD

1800 – 1930 **Registration & Opening Reception**
Room: Palmera Lounge & Patio

Thursday, January 10, 2013

0700 – 0800 **Registration & Continental Breakfast**
Estrella Patio & Palmera

0800 – 0815 **Welcome Address**
George Blike, MD
Jesse Ehrenfeld, MD, PhD
Room: Estrella

Session 1: Keynote Address

0815 – 0930 **Using IT to Control Variability in Medical Practice & Improve Medical Outcomes**
Bill Stead, MD
Room: Estrella

0930 – 1000 **Break with Exhibitors & Posters**

Session 2: Patient Safety in the Post-Operative General Care Setting

Moderator: George Blike, MD
Room: Estrella

1000 – 1030 **Automated Remote Triage, Military and Civilian Models & Potential Impact on "Failure to Rescue" Events**
Susan McGrath, PhD

1030 – 1100 **Sensor Technologies that might Support Early Detection Today & Tomorrow**
Patrick Tighe, MD, MS

1100 – 1130 **From Respiratory Depression to Circulatory Failure, What Can We Do Now?**
Andreas Taenzer, MS, MD, FAAP

1130 – 1145 **Panel Discussion**

1145 – 1230 **Personalized Medicine Technology Trends: Impact on Anesthesiology**
Kenneth Holroyd, MD

1230 – 1330 **Luncheon**
Room: Vernadero Lawn

Session 3: JOINT SESSION

FAER Foundation for Anesthesia Education and Research

Regulate or Innovate: Can We Do Both?

Moderator: Jeffrey Feldman, MD, MSE
Room: Estrella

1330 – 1400 **The View From the FDA**
Talmage Egan, MD

1400 – 1430 **Medical Devices & the World Market**
Kai Kück, PhD

1430 – 1500 **International Regulatory Approaches: More Innovative or Less Safe?**
Julian Goldman, MD

Schedule of Events cont.

1500 – 1530 **Panel Discussion**

1530 – 1545 **Break with Exhibits & Posters**

Session 4: Research Awards & Presentations

Moderator: Thomas Hemmerling, MD
Room: Estrella

1545 – 1700 **Research Awards & Presentations**

Friday, January 11, 2013

0715 – 0815 **Registration & Continental Breakfast**
Estrella Patio & Palmera

Session 5: Visualizing Complex Data

Moderator: Matt B. Weinger, MD
Room: Estrella

0815 – 0845 **Perils & Pitfalls of Anesthesiology Displays**
Matt B. Weinger, MD

0845 – 0915 **Touch Your Patient - A Tactile Display of Information**
Mark Ansermino, MBBCh, MMED, MSc (Informatics), FFA (SA), FRCPC

0915 – 0945 **Visualizing Complex Data**
Heike Hofmann, PhD

0945 – 1000 **Panel Discussion**

1000 – 1030 **Break with Exhibitors & Posters**

Session 6: Monitoring Technology Advances

Moderator: Maxime Cannesson, MD, PhD
Room: Estrella

1030 – 1100 **Early Warning Scores & Predicting Patient Deterioration**
Michael O'Reilly, MD

1100 – 1130 **From Identification to Prediction Health & Safety**
Andreas Taenzer, MS, MD, FAAP

1130 – 1200 **Use of Complexity Modeling of Physiological Signals to Predict in Real Time Cardio-respiratory Instability**
Michael Pinsky, MD, CM, Drhc, FCCP, FCCM

1200 – 1230 **Panel Discussion**

1230 – 1245 **Gravenstein Award**
Takuo Aoyagi, MD

1245 – 1330 **STA Business Luncheon & Awards**
George Blike, MD
Room: Vernadero Lawn

Session 7: Concurrent Workshops

1330 – 1530

1) Closed Loop Controllers
Room: Estrella West
Maxime Cannesson, MD, PhD
Joseph Rinehart, MD

2) Mobile Applications
Room: Cervantes
Brian Rothman, MD

Session 8: Concurrent Workshops

1530 – 1700

1) Industry/Engineering Session (CME credits not available)
Room: Estrella West
Christina DeMur
Greg Spratt, BS, RRT, CPFT

2) Engineering Contest
Room: Vernadero
Jeff Mandel, MD

3) MPOG
Room: Cervantes
Sachin Kheterpal, MD

1800 – 2130 **Dinner Event**
(included in attendee registration fee)
Palmera Patio, Reflecting Pool & Estrella

Schedule of Events cont.

Saturday, January 12, 2013

0730 – 0830 **Registration & Continental Breakfast**
Estrella Patio & Palmera

Session 9: Decision Support: Today & Tomorrow

Moderator: Mohamed Rehman, MD
Room: Estrella

0830 – 0900 **What Can be Done Today?**
Jonathan Wanderer, MD

0900 – 0930 **What Does the Future Have for Us?**
Mark Ansermino, MBBCh, MMED, MSc (Informatics), FFA (SA), FRCPC

0930 – 1000 **Enterprise Level Data Driven Decision Support**
Bimal Desai, MD, MBI, FAAP

1000 – 1030 **Break**

Session 10: Cutting Edge Technologies

Moderators: John Doyle, MD, PhD & Kirk Shelley, MD
Room: Estrella

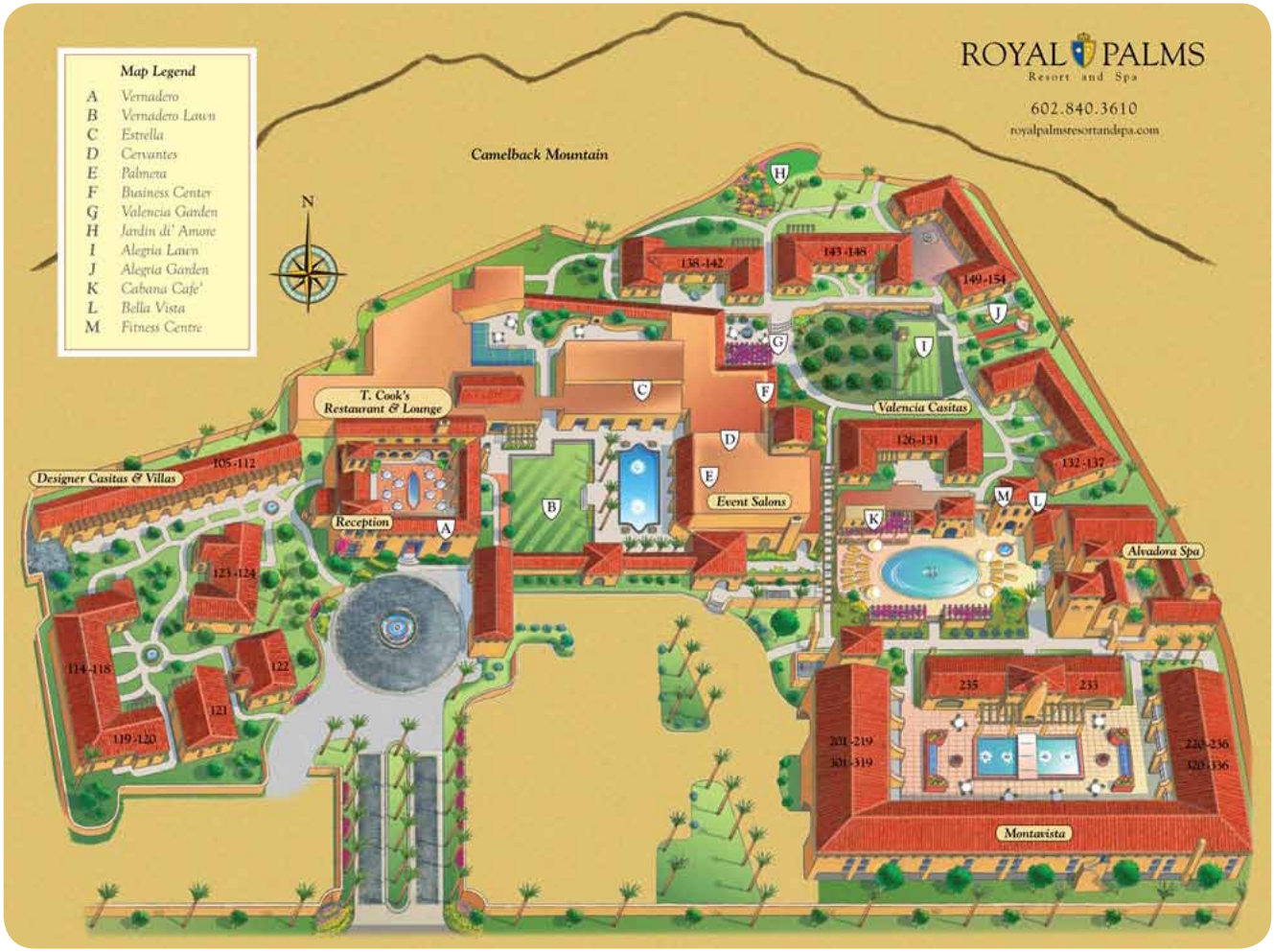
1030 – 1100 **Nanotechnology and the Future of Anesthesia**
John Doyle, MD, PhD

1100 – 1130 **Non-invasive Venous/Arterial Compliance Ratio Determination**
Kirk Shelley, MD

1130 – 1200 **Using the Pulse Oximeter & Peripheral Venous Pressure Waveforms to Guide IV Fluid Replacement**
Aymen Alian, MBBCh, MD, MSc

1200 – 1215 **Panel Discussion**

1215 **Adjourn**



Supporters & Exhibitors

Commercial Supporter

FAER
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Exhibitors

Osypka Cardiotronic – Medical
Exhibitor

Codonics
Exhibitor

Covidien
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Exhibitor

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Platinum Plus

Masimo ..... www.masimo.com

Platinum

Covidien ..... www.covidien.com

Mindray ..... www.mindray.com

Silver

Dräger ..... www.draeger.com

GE Healthcare ..... www.gehealthcare.com

iMDsoft ..... www.imd-soft.com

Philips ..... www.philips.com

Entrepreneur Gold

Codonics ..... www.codonics.com

CRISI Medical Systems ..... www.crisimed.com

Osypka Medical – Cardiotronic ..... www.osypkamed.com

ReFleX Wireless ..... www.reflexwireless.com

Entrepreneur Silver

Gauss Surgical ..... www.gausssurgical.com

Medasense Biometrics Ltd. ..... www.medasense.com

Med-Botics ..... www.med-botics.com

Company Profiles

Codonics

Headquartered in Middleburg Heights, Ohio, Codonics designs, manufactures, sells and supports medical imaging and information management devices. A global leader in image documentation solutions, Codonics products are widely used in hospitals, imaging centers, mobile applications, and government facilities with tens of thousands of installations worldwide. Today, Codonics global sales and service support network for our full product line extends to over 110 countries.

Covidien

Covidien is a $12 billion global healthcare products leader dedicated to innovation and long-term growth. Covidien creates innovative medical solutions for better patient outcomes and delivers value through clinical leadership and excellence. At Covidien, we're passionate about making doctors, nurses, pharmacists and other medical professionals as effective as they can be. Through ongoing collaboration with these medical professionals and healthcare organizations, we identify clinical needs and translate them into proven products and procedures.

CRISI Medical Systems

CRISI Medical Systems ("CRISI") is an innovator of technologies for improving the safety, accuracy and cost-effectiveness of IV injectable drug delivery. By bringing the patient safety and information management capabilities found in "smart" infusion pumps and bar code medication administration (BCMA) systems to the world of manually injected drugs, CRISI is helping to reduce medication errors, simplify clinical workflow, and automate and improve the accuracy of medication administration documentation. CRISI's first system offering, which will be focused on improving perioperative care, is expected to receive FDA 510(k) clearance in early 2014.

Company Profiles cont.

Dräger

Dräger is a leading international company in the fields of medical and safety technology. Dräger products protect, support and save lives. Founded in 1889 and located in Lübeck, Germany, the company generated revenues of around EUR 2.18 billion in 2010. Dräger is present in 190 countries with 11,000 employees worldwide.

FAER

The Foundation for Anesthesia Education and Research (FAER) is a 501(c)3 non-profit that aims to advance medicine through research and education in anesthesiology. Since its founding in 1986, FAER has provided research grants and educational opportunities to anesthesiologists to prepare them for careers in academic anesthesiology and to become independent investigators. FAER is one of the foundations supported in part by the American Society of Anesthesiologists. Learn more about FAER online at FAER.org.

Gauss Surgical

Gauss Surgical, located in Silicon Valley, California has developed a mobile platform for real-time monitoring of fluids and blood during surgery. This system leverages artificial intelligence, machine learning and cloud computing to provide and manage information to better assist the clinician in blood transfusions and aid in intraoperative fluid management.

GE Healthcare

GE is making a new commitment to health. Healthyimagination will change the way we approach healthcare, with more than 100 innovations all focused on addressing three critical needs: lowering costs, touching more lives, and improving quality. For more information visit www.gehealthcare.com

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Company Profiles cont.

iMDsoft

iMDsoft has created a new iPad app for advanced case documentation which creates accurate and compliant anesthesia records. As a cloud-based solution, it enables anesthesiologists to easily store, manage, and automatically share patient information with relevant parties such as billers, hospitals and anesthesia groups, resulting in improved communications and billing efficiency.

Masimo

Masimo is a global medical technology company that develops and manufactures innovative noninvasive patient monitoring technologies, including medical devices and a wide array of sensors. A key medical technology innovator, Masimo is responsible for the invention of award-winning noninvasive technologies that are revolutionizing patient monitoring.

Medasense Biometrics Ltd.

Medasense Biometrics is a clinical stage medical device company, developing a new objective analgesia monitoring device.

Medasense technology is based on measuring multiple pain-related physiological parameters, and combining them using innovative biomedical signal processing, and pattern recognition techniques which reveal the unique "Signature of nociceptive response". Medasense aims to provide anesthesiologists with the ability to measure objective nociception level during any procedure and at any time. This information can prevent unnecessary pain, avoid overdose, accelerate recovery and decrease hospitalization time and costs while answering the critical need to supervise patients' pain level.

Med-Botics

Med-Botics will soon begin laboratory and clinical trials of its closed-loop safety device intended to eliminate morbidity from opioid analgesia.

GOALS: Absolutely zero morbidity from opioid therapy, decreased IHCA (In-Hospital Cardiac Arrests), much improved pain control, decreased alarm fatigue and nursing burdens, and essentially "cruiise-control" PCA analgesia by regulated and automatic delivery of narcotic antagonists.

Company Profiles cont.

Mindray

Mindray was founded in 1991 with the goal of delivering high-quality, competitively priced medical devices to make health-care more accessible and affordable around the world. In 2006, Mindray listed on the New York Stock Exchange and is now a leading developer, manufacturer and marketer of medical devices worldwide.

The company has three well-established business segments: Patient Monitoring and Life Support Products, In-Vitro Diagnostic Products and Medical Imaging Systems. Health care facilities equipped with Mindray's products can be found in over 190 countries and regions.

Osypka Medical – Cardiotronics

Cardiotronic – Osypka Medical, Inc. specializes in completely non-invasive hemodynamic monitoring for adult, pediatrics and neonates. These Electrical Cardiometry (EC) Monitors provide continuous estimations of flow, contractility, resistance, and fluid as well as other hemodynamic parameters through the use of only four sensors applied on the skin. It has been shown that implementation of Cardiotronic - Osypka Medical's EC Monitors results in economical and operational benefits including reduction in costs, procedural risks, and medical staff time. Cardiotronic – Osypka Medical, Inc. is also a leader in manufacturing and distribution of temporary external pacemakers. For more information, please visit: www.cardiotronic.net

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Philips

Philips Healthcare is a worldwide provider of Diagnostic Imaging Products, Cardiac and Physiological Monitoring Systems and Information Management applications. Philips provides clinical informatics and patient care solutions that simplify clinician workflow, improve financial outcomes, and help improve and save lives. With focused technologies that acquire, integrate, and present information as it's required throughout the perioperative process, Philips is delivering on a commitment to address the clinical, business and technical requirements of anesthesia care teams.

Company Profiles cont.

ReFleX Wireless

ReFleX Wireless specializes in providing wireless sensors for Tele-Health applications. Originally inspired by the STA Engineering Challenge 2011, ReFleX created wireless sensors for detecting Syncope, Pulse Oximetry and Body Temperature for hospital ward. Since February 2011, ReFleX's ability of applying ICT technology in the Healthcare domain has been recognized by numerous competitions hosted by North American Academic and Government Institutions. Most notably ReFleX won the international competition – NYC Next Idea Competition (2010-11), where ReFleX was awarded a cash prize, a short meeting with Mayor Bloomberg and six months of free office space in New York City to launch its business. Currently ReFleX Wireless Inc. is a B.C. incorporated company and is jointly supported by the BC Innovation Council, University of British Columbia and Wavefront Accelerator.

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Society for Technology in Anesthesia

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