New Frontiers in Medicine and Surgery
Current and Future Surgical Advances and Opportunities

April 23, 2008                       Hyatt Regency Irvine                       Orange County, CA

Join us for a robust, engaging day-long event focused on future innovation, emerging technology and trends of the intersection of medicine and surgery. From medical devices and surgical tools to patient safety and translational research, come hear about and meet leading thought and business leaders who will discuss today’s surgical operating processes, tools and trends, as well as what the future could hold. Panels will discuss the following:

- What will the 21st century operating room look like? What are the white spaces?
- How will telemedicine influence the “role of the doctor?” Can the US be the “surgeon to the world?”
- What are the latest trends in surgical assistance?
- What are key process tools and equipment used in today’s and tomorrow’s operating room?
- How can surgical errors be reduced with technology and new tools and processes?
- What role, good or not so good, will the FDA play in getting new technology into the OR?
- How will the global landscape affect medicine and surgery?
- How can we more efficiently go from “bench to bedside?”
- How can university translational best practices be utilized?
- How can doctors create new products, services and companies to solve unmet needs?
- What are the challenges of translational research? Opportunities? Best practices?

Agenda
7:30 a.m. Registration and Breakfast

8:00 a.m. Panel Discussion:
“Future innovation, emerging trends and white spaces with the 21st century operating room”
Progress in imaging, monitoring, robotics, data processing, systems integration and more are opening vast new vistas for the practice of medicine and surgery in the 21st century. As these technologies mature and drive even further innovation, how will they affect the look, feel, organization, and construction of hospitals, clinics, and surgical suites over the next 10 years? 25 years? This panel will chart the directions of future developments and practices of medicine and surgery and suggest what will occur; and how we all prepare for it.

Panelists:
- Dr. Ernest Bates, M.D., Founder, Chairman, and CEO, American Shared Hospital Services
- Dr. Michael Marohn, F.A.C.S., Associate Professor of Surgery, Johns Hopkins University; Co-founder, Uniformed Services University/Department of Defense Tri-Service Videoendoscopic Surgery Program
- John Onopchenko, Synergy Life Science Partners, LP
- Dr. Charles Wilson (invited), Senior Research Fellow, Institute for the Future; Professor Emeritus of Neurosurgery, University of California San Francisco
- Scott Wyatt, FAIA (invited), Managing Partner and CEO, NBBJ Architects

10:00 a.m. Panel Discussion:
“Surgical Assistance: systems to improve efficiency and outcomes”
As the field of computer-assisted surgery matures, there is an increasing focus on the development of systems that augment the physical and sensory performance of a surgeon during the conduct of surgical procedures. Such systems are designed to work cooperatively with the surgeon in a dynamic or context-dependent fashion. Some research in this area is focused on physical assistance and visualization assistance. Other research activities involve direct manipulation assistance, integrated approaches to visualization, sensing and augmentation, modeling entire surgical procedures to enable customization of physical and sensory augmentation, and testing the effectiveness of various enhancements from a human factors perspective. Advancements in surgical assistance will improve efficiency, increase the use of robotic surgical systems in medicine, and improve safety and patient outcomes.

Panelists:
- Dr. Ralph V. Clayman – Chair of Department of Urology at University of California, Irvine
- Dr. Russ Taylor – Researcher, Johns Hopkins University
- Greg Hager – Johns Hopkins University, on sabbatical at Stanford
- Chris Hasser – Director of Research at Intuitive Surgical

Continued...
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Noon: Lunch Keynote:
“The Future Frontiers of Medical Device Regulation: Innovation and Oversight”

Peter Barton Hutt: Senior counsel in the Washington, D.C. law firm of Covington & Burling LLP specializing in food and drug law. Hutt served as Chief Counsel for the Food and Drug Administration during 1971-1975, and has been a member of the Institute of Medicine since its founding in 1971. Hutt is the co-author of the casebook used to teach food and drug law throughout the country, and has published more than 175 book chapters and articles on food and drug law and health policy. Beginning in 1994 he taught a full course on this subject each year during Winter Term at Harvard Law School and in 1998 he taught the same course during Spring Term at Stanford Law School. Hutt graduated from Yale College and Harvard Law School and obtained a Master of Laws degree in Food and Drug Law from NYU Law School.

2:00 p.m. Panel Discussion:
“Machine Learning & Signal Processing for Increased Patient Safety”
Historically, the Operating Room (OR) has been the site and stimulus of significant patient safety advances. Responding to rising malpractice premiums in the 1980s, anesthesiologists confronted safety issues by improving training, standardizing equipment, and adopting advanced technologies. Use of their most notable adopted device, the pulse oximeter, migrated from the OR to the Intensive Care Unit (ICU) and other parts of the hospital. More recently, the incidence of unintended intraoperative awareness was reduced with bispectral index monitors. A key component of these and other patient monitoring devices is the device algorithm which enables accurate monitoring. These algorithms, which are based on machine learning and signal processing techniques, enable patient parameters to be estimated in the midst of motion and other noise artifact and patient states to be classified from inherently noisy signals. With the publication of the Institute of Medicine (IOM) reports on medical errors in 1999 and 2006, patient safety has received increased scrutiny. In their first report, IOM estimated that between 44,000 and 98,000 U.S. patients die in hospitals each year as a result of preventable medical errors. In terms of devices, improvements in medication delivery and adoption of electronic medical records can significantly improve safety. Once again, machine learning and signal processing algorithms are poised to enable these devices to reach their safety potentials.

Panelists:
- Gail Baura, PhD, Professor, Keck Graduate Institute
- Former Vice President, Research and Chief Scientist, CardioDynamics
- Shankar Reddy, PhD, FACC – Director, Cardiac Technologies, Cardiac Care Cycles, Chief Technology Office, Philips Medical Systems
- Tim Vanderveen, PharmD, MS – Vice President, The Center for Safety and Clinical Excellence, Cardinal Health Former Director, Clinical Affairs, Alaris Medical Systems
- Richard Gibson, MD, PhD, MBA – Senior Vice President, Chief Information Officer, Legacy Health System Clinical Assistant Professor, Department of Medical Informatics & Clinical Epidemiology, Oregon Health Sciences University

4:00 p.m. Panel Discussion:
“Translational research: The hope, opportunities and challenges”
As 21st century hospitals and clinic respond to the dynamic demands of an aging population, aggressive global competition, and a far more complex IP environment, how will innovative new products proceed from bench to bedside? What will be the interplay between large company, small company, venture funds, and academic medical centers? What are – and will be – best practices in translational development? This panel will address these issues and more:

Panelists:
- Jay Watkins, Managing Director, Denovo Ventures
- Tom Klopack, President & CEO, IntelliDOT
- Jim Osborne, PhD, Vice President Advanced Technology Center, Beckman Coulter
- Michael Friedman, MD, President & CEO, City of Hope Medical Center
- Diana Bartlett, Director of Corporate Partnerships, KGI

5:30—7:00 pm. Closing Reception

$95: OCTAnE Members and Sponsors
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