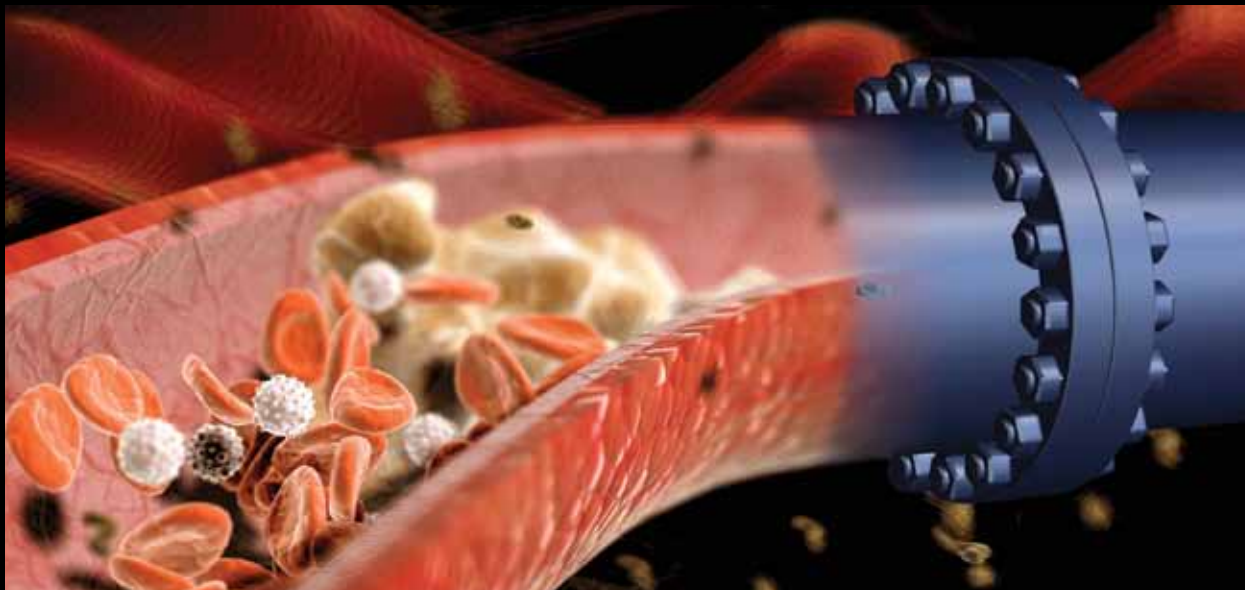


Pumps & Pipes 6: *Opportunity Now*



Monday, December 3, 2012 | The Methodist Hospital Research Institute

Fostering and building unique research opportunities among energy, medicine and aerospace—
Houston's largest industries—to enhance and develop innovative technologies.

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Pumps & Pipes 6: Opportunity Now

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DECEMBER 3, 2012

- 7:00 – 8:00 Registration and Breakfast
8:00 – 8:20 **Welcome – Where Six Years Have Brought Us**
Alan B. Lumsden, M.D., Medical Director
Methodist DeBakey Heart & Vascular Center
8:20 – 8:40 **Houston, We Have an Opportunity**
Michael L. Coats, Director
Johnson Space Center

Conversation Starters

- 8:45 – 9:15 **Artificial Heart Approach to Ultra Deepwater Oil and Gas Production**
Matthew A. Franchek, Ph.D.
Professor Mechanical Engineering
Director, Subsea Engineering Program, University of Houston
9:15 – 9:45 **Space Cowboys: Roping An Asteroid**
Robert Ambrose, Ph.D., Chief
Software, Robotics & Simulation Division, NASA
Office of Chief Technologies, Johnson Space Center
9:45 – 10:15 **Eyes On the Data, Not On Your Lunch: The Case for Artificial Intelligence**
Frode Sørmo, Ph.D., Chief Technology Officer
Verdande Technology, Trondheim, Norway

Break/Networking Stations

- 10:15 – 10:45 **NASA Lunar Rover** | Johnson Space Center
“Archer” Rotary Steerable Drilling System | Schlumberger
Artificial Hearts | Methodist DeBakey Heart & Vascular Center
Image Computing | Computational Biomedicine Laboratory, University of Houston

Seeing Is Believing I

- 10:45 – 11:00 **Introduction & Conversation**
Jeffrey P. Sutton, M.D., Ph.D., President & CEO
National Space Biomedical Research Institute
Director, Center for Space Medicine
Baylor College of Medicine
10:45 – 11:05 **Live Feed from Palmer Station, Antarctica – Long Distance Telemedicine**
Scott E. Parzynski, M.D., Former Astronaut
Chief Medical Officer & Director
UTMB Center for Polar Medical Operations
11:05 – 11:20 **Introduction & Conversation**
William E. Kline, Ph.D., Manager
Drilling & Subsurface Function
ExxonMobil Upstream Research Company
11:20 – 11:40 **Live ROV Feed From Deepwater Champion Drillship – Subsea Engineering**
ExxonMobil/Oceaneering ROV Supervisors, Gulf of Mexico
11:40 – 12:00 Break – Pickup Lunch

KEYNOTE ADDRESS

- 12:00 – 1:00 **Transcatheter Heart Valve Interventions and Devices**
Michael J. Mack, M.D., Chairman
ACC/STS National Transcatheter Valve Therapy Registry
Director, Cardiovascular Surgery, Baylor Health Care System
Director, Cardiovascular Research
The HEART Hospital Baylor
Plano, Texas
1:00 – 1:20 **Patient-Specific Cardiovascular Models for Medical Device Testing**
Stephen H. Little, M.D., Director Heart Valve Institute
Director, Cardiovascular Hemodynamic Imaging Laboratory
Methodist DeBakey Heart & Vascular Center

Seeing Is Believing II

- 1:20 – 1:40 **Introduction & Conversation**
William E. “Billy” Cohn, M.D., Director
Minimally Invasive Surgical Technology
Texas Heart Institute
1:40 – 2:30 **Live Case From Hybrid Operating Room – Cowboy Boots & LARIAT®**
Miguel A. Valderrábano, M.D., Director
Cardiac Electrophysiology
Methodist DeBakey Heart & Vascular Center

What Can We Make Happen – The Challenges

- 2:30 – 2:40 **Oilfield Applications for Nano-Materials**
David P. Gerrard, Ph.D., Baker Hughes
2:40 – 2:50 **Filling Vascular Spaces**
Alan B. Lumsden, M.D., DeBakey Heart & Vascular Center
2:50 – 3:00 **Robots in Hostile Environments**
Robert Ambrose, Ph.D., NASA/Johnson Space Center
3:00 – 3:10 **Pipeline Infection**
Victor V. Keasler, Ph.D., Nalco
3:10 – 3:20 **Energy Transmission Systems**
Stephen R. Igo, Methodist DeBakey Heart & Vascular Center
3:20 – 3:30 **Ubiquitous Wireless Smart Sensing & Control**
Ray S. Wagner, Ph.D., NASA/Johnson Space Center
3:30 – 3:50 Break & make your way to Breakout Session rooms

What Can We Make Happen II

- 3:50 – 4:50 **Facilitated Challenge Sessions** (Breakout Session rooms)
4:50 – 5:00 Return to Auditorium
5:00 – 5:30 **Consolidated Summary**
Evaluation forms and final comments
William E. Kline, Ph.D. and Alan B. Lumsden, M.D.

Opportunities Now: Let's Talk

- 5:30 – 7:30 **RECEPTION**
Trevisio's Restaurant