

The background is a dark, textured surface resembling a cell membrane. Several red blood cells are scattered throughout. A large, stylized white letter 'S' is visible in the center. A metallic, multi-legged nanobot is positioned in the lower right, interacting with a red blood cell. Another smaller nanobot is visible on the left, also near a red blood cell.

2nd Annual Unither
Nanomedical & Telemedical
Technology Conference

The Next Decade's Approach to Medicine



February 24 - 27, 2009
Hotel Manoir des Sables
Orford, Quebec



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www.unithertechnologyconference.com

Conference Co-Chairs:

Martine Rothblatt, Ph.D.
Présidente directrice générale, Unither Biotech, Inc.

Baruch S. Blumberg, M.D., Ph.D.
Distinguished Scientist, NASA Lunar Science Institute
NASA Astrobiology Institute & NASA Ames Research Center

Tuesday, February 24, 2009 – Friday, February 27, 2009

Tuesday, February 24, 2009

4:00 PM Hotel Check-in / Conference Check-in

6:30 - 9:30 PM Buffet Reception

Wednesday, February 25, 2009 - Nanomedical Technology

6:15 – 6:45 AM Buffet Breakfast

6:50 – 7:10 AM **09S1OR** Opening Remarks – Martine Rothblatt, Ph.D., Conference Co-Chair

7:10 – 9:10 AM Session 1 – Telemanagement of Very Small *In Vivo* Devices

7:10 – 7:30 AM **09S1P1** Ven Manda – Vice President of New Therapies & Diagnostics: Medtronic, Inc., “*Remotely Managing Chronic Diseases-Role of Implantable Devices*”

7:40 – 8:00 AM **09S1P2** Robert Sclabassi, M.D., Ph.D. – CEO: Computational Diagnostics, Inc., “*Brain-Implantable Computing Platform*”

8:10 – 8:30 AM **09S1P3** Julien Penders, M.Sc. – Program Manager: Holst Centre/IMEC, “*Potential and Challenges of Body Area Networks for Personalized Health*”

8:40 – 9:00 AM **09S1P4** Jay Yadav, M.D., FACC – CEO: CardioMEMS, Inc., “*Wireless Sensing for the Body*”

9:10 – 9:30 AM Coffee Break

9:30 – 12:20 PM Session 2 – Technology Development Pathways for Medical Nanobots

9:30 – 9:50 AM **09S2P1** Alex Travis, V.M.D., Ph.D. – Associate Professor: Cornell University, “*Sequential Metabolic Reactions on a Chip: A Step Toward Energy Production to Power Implantable Medical Nanodevices*”

10:00 – 10:20 AM **09S2P2** Sonia Antoranz Contera, M.D. – RCUK Fellow in Biological Physics: University of Oxford, “*Nanotubes as a Drug Delivery System*”

10:30 – 10:50 AM **09S2P3** Rob Burgess, Ph.D. – Founder & President: Medical Nanotechnologies, Inc., “*Carbon Nanotube-Based Therapeutics*”

11:00 – 11:20 AM Coffee Break



- 11:20 – 11:40 AM **09S2P4** Srinivas Sridhar, Ph.D. – Director: NCI/NSF Igert Nanomedicine Program - Northeastern University, “*Nanoplatforms for Nanomedicine*”
- 11:50 – 12:10 PM **09S2P5** Tihamer Toth-Fejel – Nanotechnology Researcher: General Dynamics Advanced Intelligence Systems, “*Respirocytes from Patterned Atomic Layer Epitaxy: The Most Conservative Pathway to the Simplest Medical Nanorobot*”
- 12:20 – 1:00 PM Buffet Lunch
- 1:00 – 2:00 PM **Keynote Speaker**
09S2SK Ray Kurzweil – Founder, Chairman & CEO: Kurzweil Technologies, Inc., “*The Radical Expansion of Human Longevity and Intelligence*”
- 2:00 – 2:30 PM **09S2SKQA** Ray Kurzweil – Q & A Discussion
- 2:30 – 2:50 PM Coffee Break
- 2:50 – 6:10 PM Session 3 – Nanomedical Structures and Devices in Development Today**
- 2:50 – 3:10 PM **09S3P1** Jamboor K. Vishwanatha, Ph.D. – Dean and Professor: University of North Texas Health Science Center at Fort Worth, “*Biodegradable Nanoparticles for Cancer Therapy*”
- 3:20 – 3:40 PM **09S3P2** John T. W. Yeow, Ph.D. – Assistant Professor: University of Waterloo, “*Flexible and Transparent Dosimeters for Radiation Oncology Applications*”
- 3:50 – 4:10 PM **09S3P3** Laurent Levy, Ph.D. – CEO: Nanobiotrix SA, “*Nanodevice for Radiotherapy: Preclinical & Clinical Development*”
- 4:20 – 4:40 PM Coffee Break
- 4:40 – 5:00 PM **09S3P4** Morten Foss, Ph.D. – Senior Scientist: Aarhus University iNANO (Interdisciplinary Nanoscience Center), “*Micro- and Nanotopography for Controlled Cellular Response*”
- 5:10 – 5:30 PM **09S3P5** Shuyi Li, M.D., Ph.D. – Research Scientist: Medical College of Georgia, “*Modifying the Function of DNA Repair Nanomachines for Therapeutic Benefit*”
- 5:40 – 6:00 PM **09S3P6** Simon Benita, Ph.D. – Professor: The Hebrew University of Jerusalem, “*Antibody-Nanocarrier Conjugates for Drug Targeting and Improved Cancer Therapy*”
- 6:30 – 9:30 PM Dinner at Manoir des Sables

Thursday, February 26, 2009 – Telemedical Technology

- 6:30 – 7:00 AM Buffet Breakfast
- 7:15 – 7:30 AM **09S4OR** Opening Remarks – Baruch S. Blumberg, M.D., Ph.D., Conference Co-Chair
- 7:30 – 10:00 AM Session 4 – Nano-Bio Interfaces & Hybrids**
- 7:30 – 7:50 AM **09S4P1** Mark Kester, Ph.D. – Professor: Pennsylvania State University, “*Calcium Phosphate Nanoparticles as Nano ‘Solutions’ for Drug Delivery and Bioimaging*”



- 8:00 – 8:20 AM **09S4P2** David Yu Zhang, Ph.D. – Professor: California Institute of Technology, “*Bioengineering with (only) DNA: Detecting and Amplifying Disease Markets*”
- 8:30 – 8:50 AM **09S4P3** Ennio Tasciotti, Ph.D. – Assistant Professor: Division for Nanomedicine at the Institute for Molecular Medicine, UTHSC-Houston, “*Nanoporous Silicon as a Platform for Targeted Drug Delivery & Discovery of Proteomic Signatures for Cancer Diagnostics*”
- 9:00 – 9:20 AM **09S4P4** Gary Craig, M.S., E.I.T. – University of Maine, “*PEGylated Gold Nanoparticles Conjugated to Monoclonal F19 Antibodies as Targeted Labeling Agents for Human Pancreatic Carcinoma Tissue*”
- 9:30 – 9:50 AM **09S4P5** Jean-Pierre Leburton, Ph.D. – Professor of Electrical and Computer Engineering: University of Illinois at Urbana-Champaign, “*Merging Biology and Nano Electronic for Bio-molecule Detection and Manipulation*”
- 10:00 – 10:20 AM Coffee Break
- 10:20 – 11:20 AM Session 5 – Nanomedical Functionality**
- 10:20 – 10:40 AM **09S5P1** Eric Jakobsson, Ph.D. – Director: National Center for Design of Biomimetic Nanoconductors - University of Illinois, “*Functional Protocells for Nanomedicine*”
- 10:50 – 11:10 AM **09S5P2** Raj Bawa, Ph.D. – Adjunct Associate Professor: Rensselaer Polytechnic Institute & Patent Agent at Bawa Biotech Consulting, “*Nanomedicine & Drug Delivery: Size Does Matter*”
- 11:20 – 11:50 AM **Keynote Speaker**
09S5SK Professor Kevin Warwick, Ph.D. – Professor of Cybernetics: University of Reading, “*Practical Experimentation with Implant Technology*”
- 11:50 – 12:20 PM **09S5SKQA** Professor Kevin Warwick, Ph.D. – Q & A Discussion
- 12:30 – 1:30 PM Buffet Lunch
- 1:40 – 4:10 PM Session 6 – Telemedical In Vivo Devices in Development Today**
- 1:40 – 2:00 PM **09S6P1** Brian Brockway – President, CEO & Chairman: Transoma Medical, Inc., “*Implantable Systems for Monitoring and Diagnosis of Patients with Chronic Cardiovascular Disease*”
- 2:10 – 2:30 PM **09S6P2** Diana Hodgins, D.Sc. – Managing Director: European Technology for Business, Ltd, “*Development of Intelligent Implants*”
- 2:40 – 3:00 PM **09S6P3** Elias Greenbaum, Ph.D. – Corporate Fellow: Oak Ridge National Laboratory, “*Nanoscale Photovoltaics & Artificial Sight*”
- 3:10 – 3:30 PM **09S6P4** Justin C. Sanchez, Ph.D. – Assistant Professor: University of Florida, “*Direct Brain-Machine Interfaces*”
- 3:40 – 4:00 PM **09S6P5** Robert C. Bourge, M.D. – Director: Division of Cardiovascular Disease at the University of Alabama at Birmingham, “*The Clinical and Investigational Potential of Implanted Remotely Monitored Hemodynamic Monitoring Device*”
- 4:10 – 4:30 PM Coffee Break



4:30 – 6:40 PM Session 7 – Telemedical Control of Medical Nanobots

4:30 – 4:50 PM **09S7P1** Jun Li, Ph.D. – Associate Professor: Chemistry Department at Kansas State University, “*Vertically Aligned Carbon Nanofiber Array as a Neural Electric Interface for Neural Stimulation*”

5:00 – 5:20 PM **09S7P2** Jamil Khan, Ph.D. – Head of Electrical Engineering Discipline: University of Newcastle-Callaghan, “*Wireless Technologies for Wearable & Implantable Wireless Body Area Networks*”

5:30 – 5:50 PM **09S7P3** Christian Dahmen, M.Sc. – Research Associate: University of Oldenburg, “*Magnetic Resonance Imaging of Magnetic Nanobots for Targeted Drug Delivery*”

6:00 – 6:20 PM **09S7CR** Closing Remarks – Dismissal from Panel Discussions

7:30 – 10:00 PM Closing Banquet at Cavallini Restaurant; 101 Rue Du Moulin, Magog, QC J1X 4A1

Friday, February 27, 2009

12:00 PM Hotel Check Out