Reaching Together

At the Frontier of Biomedical Research

Third Annual Mountain West Biomedical Engineering Conference

The Canyons Resort, Park City, UT
September 21-22, 2007

Sponsored by:
The Department of Bioengineering, University of Utah
Utah Science Technology and Research Initiative

THE UNIVERSITY OF UTAH

21 September, 2007

Welcome to the 2007 Mountain West Biomedical Engineering Conference at The Canyons, Utah. In this Program, you will find:

- Program Agenda
- Biographies of Keynote Speakers
- List of Podium Presentations
- List of Poster Presentations

The conference is designed to highlight outstanding examples of biomedical engineering and science research at major academic institutions in Utah and the Mountain West, to provide a forum for undergraduate and graduate students and postdoctoral fellows to report their results, and to strengthen the network of bioengineers, scientists, and entrepreneurs in our region.

I would like to thank Dr. Joshua Makower and Dr. Kristi Anseth for traveling to Utah to share some of their research and medical product insights. I would also like to extend special thanks to the conference sponsors, and to the conference organizing committee, led by Lisa MacFadden.

Enjoy the events,

Richard Rabbitt
Professor and Chair
Department of Bioengineering
University of Utah

The on-line version of this program can be found at http:.//www.bioen.utah.edu/conference/canyons2007

Day 1. Friday, September 21, 2007

4:00-6:00 pm	Registration Ballroom Lobby
4:00-7:00 pm	Poster Setup Parlors I and III
7:00-8:00 pm	**Keynote Address**: *Innovation Applied* Josh D. Makower Parlor II
8:00-10:00 pm	Opening Reception Parlors I, III & Lobby

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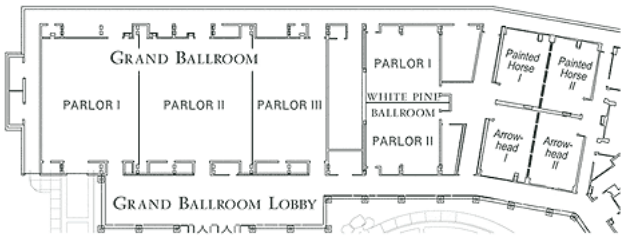
Day 2. Saturday, September 22, 2007

8:00-9:00 am	Breakfast Buffet Outdoor Pavillion
9:00-10:45 am	Podium Session I - Chaired by Robert MacLeod Parlor II
10:45-11:00 am	Break including Refreshments Ballroom Lobby
11:00-12:00 pm	**Distinguished Lecture**: *Permitting vs. Promoting Hydrogel Niches for Tissue Regeneration* Kristi Anseth Parlor II
12:00-1:30 pm	Lunch Outdoor Pavillion
1:30-3:00 pm	Poster Session Parlors I and III
3:00-4:30 pm	Podium Session II - Chaired by Bradley Gregor Parlor II
4:30-5:00 pm	Poster Takedown Parlors I and III

GRAND SUMMIT RESORT HOTEL



2007
Mountain West
Biomedical Engineering
Conference

Speaker Biographies

Kristi S. Anseth, Ph.D.

Kristi S. Anseth is presently a Howard Hughes Medical Institute Investigator and Tisone Professor of Chemical and Biological Engineering at the University of Colorado at Boulder. Her research interests lie at the interface between biology and engineering where she designs new biomaterials for medical and biological applications, including tissue engineering, drug delivery, and microfluidic devices. Since joining the faculty at CU in 1996, Dr. Anseth's group has published over 150 publications in peer reviewed journals and presented over 140 invited lectures in the fields of biomaterials and tissue engineering. She is the first engineer to be named a Howard Hughes Medical Institute Assistant Investigator and received the Alan T. Waterman Award, the highest award of the National Science Foundation for demonstrated exceptional individual achievement in scientific or engineering research. Dr. Anseth is also a dedicated teacher, who has received four University Awards related to her teaching, as well as the American Society for Engineering Education's Curtis W. McGraw Award.

Joshua Makower, M.D.

Joshua Makower, M.D. is the Founder & Chief Executive Officer of ExploraMed III, Inc., a medical device incubator based on the west coast and is also a Venture Partner with New Enterprise Associates. Dr. Makower serves as a Consulting Associate Professor of Medicine at Stanford University Medical School and is Co-Founder of Stanford's Biodesign Innovation Program. Prior to this, he was Founder, Chairman and Chief Technical Officer of TransVascular, Inc. a company focused on the development of a completely catheter-based coronary bypass technology, which was acquired by Medtronic, Inc. in 2003, and Founder and Chairman of EndoMatrix, Inc., a company focused on the development of a novel therapy for incontinence and GI Reflux, which was acquired by C.R. Bard in 1997. Up until 1995, Dr. Makower was Founder and Manager of Pfizer's Strategic Innovation Group, a group chartered to create new medical device technologies and businesses for Pfizer's medical devices businesses. Dr. Makower holds over four dozen patents for various medical devices in the fields of Cardiology, General Surgery, Drug Delivery and Urology. Dr. Makower holds a Masters of Business Administration degree from Columbia University, a Doctor of Medicine degree from the New York University School of Medicine, and a Bachelor of Science degree in Mechanical Engineering from the Massachusetts Institute of Technology. Dr. Makower also serves as Chairman of the Board for Acclarent, Inc. - a venture backed company focused on the treatment of ENT disorders, NeoTract, Inc and Vibrynt, Inc.. – ExploraMed's most recent spin outs, and on the Board of Directors for Intrinsic Therapeutics, Inc. - a venture backed private company developing innovative spinal therapies.

Presentations

Podium Session I

9:00 Synthetic Extracellular Matrices as Tools for Bioprinting
A Skardal and GD Prestwich
Departments of Bioengineering and Medicinal Chemistry, University of Utah

9:15 Development and characterization of a microheater array device for real-time DNA mutation detection
L Williams, M Okandan, A Chagovetz, S Blair
Departments of Bioengineering and Electrical and Computer Engineering, University of Utah; Sandia National Laboratories, Albuquerque,, NM,

9:30 *In vivo* Thrombosis Reduction by a Recombinant Mass Transport-Enhanced Antithrombin III
B Leng, SC Bock
Departments of Bioengineering and Internal Medicine University of Utah

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9:45 A comparison of the myocardial perfusion reserve using 3T MRI and PET
N Pack, EVR. DiBella, TC Rust, DJ Kadrmas, CJ McGann, R Butterfield, PE Christian, JM Hoffman
Departments of Bioengineering and Radiology, Cardiovascular Research and Training Institute, and Huntsman Cancer Institute, University of Utah

10:00 Evaluation of Toxicity and Cellular Uptake of Silica Nanotubes: A Novel Multifunctional Drug Delivery System
A Nan, X Bai, SJ Son, SB Lee, H Ghandehari
Center for Nanomedicine & Cellular Delivery, Department of Pharmaceutical Sciences, University of Maryland Baltimore, Department of Chemistry & Biochemistry, University of Maryland College Park, Maryland

10:15 FEBio: A new FE software tool for analysis of biomechanical systems
SA Maas, JA Weiss
Department of Bioengineering, Scientific Computing and Imaging Institute, University of Utah

10:30 Bioadhesion and Binding Affinity of -2(-Hydroxypropyl) Methacrylamide (HPMA) Copolymer-RGDfK Conjugates: Influence of Peptide Content and Molecular Weight
MP Borgman, RB Kolhatkar, H Ghandehari
Center for Nanomedicine & Cellular Delivery, Department of Pharmaceutical Sciences, University of Maryland Baltimore

Presentations

Podium Session II

3:00 Accuracy of cartilage geometry reconstruction from volumetric CT data: A Phantom Study
AE Anderson, BJ Ellis, CL Peters, JA Weiss
Department of Bioengineering, Scientific Computing and Imaging Institute, University of Utah

3:15 Microchip Warfarin Metabolism Genotyping Using DNA Melting Analysis
SO Sundberg, CT Wittwer, BK Gale
Departments of Bioengineering, Pathology and Mechanical Engineering, University of Utah

3:30 Bicuspid aortic valve: flow, wall shear stress, and structure of the aortic root using phase contrast MRI
AJ Barker, C Lanning, V Chapman, R Shandas
Department of Mechanical Engineering, University of Colorado – Boulder; Departmenst of Pediatric Cardiology and Radiology, Children's Hospital, Denver CO; Radiology Imaging Associates, Englewood, CO

3:45 A Mucoadhesion, Semen-Responsive Microbicide Drug Delivery Vehicle
JI Jay, MC Roberts, J Fabian, MC Hanson, P Kiser
Departments of Bioengineering and Pharmaceutics and Pharmaceutical Chemistry, University of Utah

4:00 Temporally constrained reconstruction applied to MRI temperature data
N Todd, G Adluru, EVR Dibella, D Parker
Departments of Physics, Radiology, and Electrical and Computer Engineering, University of Utah

4:15 Macrophages exhibit stable phenotypic markers in extended culture on model biomaterial surfaces
L Chamberlain, M Gonzalez-Juarrero, D Grainger
Cell and Molecular Biology Program, Department of Microbiology, Immunology, and Pathology, and Department of Chemistry, Colorado State University; Department of Pharmaceutical Chemistry, University of Utah

Presentations

Poster Session

1. Musculoskeletal Modeling of the Feline Hindlimb for Functional Electrical Stimulation
NAT Brown, LN MacFadden
Departments of Bioengineering and Orthopaedics, University of Utah

2. Differential expression of theta oscillations by conductance and current stimuli
FR Fernandez, JA White
Center for Biodynamics, Department of Biomedical Engineering, Boston University

3. Controlling surface density of protein-repellent PEG films on polymers through mechanically assisted assembly
A Heredia, A Burbank, A Taggart, H Druv, DW Britt
Department of Biological Engineering, Utah State University

4. A Tool for Automated Stimulus-Response Calibration of High-Channel-Count Neural Implants.
AM Wilder, S Hiatt, BR Dowden, NAT Brown, GA Clark
School of Computing, Departments of Bioengineering, Orthopaedics, and Electrical and Computer Engineering

5. Electrochemical Corrosion Studies of Ti-6Al-4V Attached with TiO2 Nanoparticles
N Zaveri, A Zhou
Department of Biological and Irrigation Engineering, Utah State University

6. Improved corrosion resistance of pulsed laser-treated Ti-6Al-4V implant in simulated biofluids
N Zaveri, M Mahapatra, A Deceuster, Y Peng, Li, A Zhou
Departments of Biological and Irrigation Engineering and Mechanical and Aerospace Engineering, Utah State University

7. A novel high-resolution image analysis method for examining the effect of electrode implantation in peripheral nerves.
MB Christensen, SM Pearce, FE Vega, PA Tresco
Department of Bioengineering, University of Utah

8. Carbohydrate-based surface coatings reduce the foreign body response to chronically implanted silicon microelectrode recording arrays
BK Leung, D Kim, J Skousen, DC Martin, PA Tresco
Department of Bioengineering, University of Utah

9. Selective Recruitment of Cat Hamstring Muscles
BR Dowden, AM Wilder, SD Hiatt, RA Normann, GA Clark, NAT Brown
School of Computing, Departments of Bioengineering, Orthopaedics, and Electrical and Computer Engineering

10. Creating an Effective Microfluidic Setup for Temporary Testing
B Haslam, S Kim, G Nordin
Department of Electrical and Computer Engineering, Brigham Young University

11. New Surface Gradients for Testing Protein-Surface Interactions
BE Wright, Y Ding, S Streitmatter, V Hlady
Department of Bioengineering, University of Utah

12. The Effect of Pulsatile Flow on Astrocytic Growth
CA Black, WE Grever, KYS Ng, JP Mcallister II
Department of Bioengineering, University of Utah; Department of Neurosurgery - Primary Children's Medical Center, Salt Lake City, UT; Departments of Chemical Engineering and Material Science, Department of Neurological Surgery - School of Medicine, Depart

13. Infrared emitting gold quantum dots for in vitro imaging: Effect of gold-thiol ratio on emission spectra of gold quantum dots
C Lee, A Ostafin
Departments of Bioengineering and Material Science and Engineering, Univeristy of Utah

14. An 1100-Channel Stimulation System for Driving Microelectrode Arrays for Neural Prosthetics
SD Hiatt, KS Guillory, AM Wilder, BR Dowden, GA Clark
Departments of Bioengineering, Electrical and Computer Engineering and School of Computing, University of Utah

15. Non-invasive and non-pharmacological approach to preventing neointimal hyperplasia in eptfe grafts
DL Stirland, RJ Stewart, DA Christensen, Y-T Shiu
Department of Bioengineering, University of Utah

16. Ets-1 Protein Expression In Subconfluent Endothelial Cells Is Transiently Upregulated By Flow
LE Corum, DL Stirland AND Y-T Shiu
Department of Bioengineering, University of Utah

17. In Vitro and In Vivo Studies of Resorbable Middle Ear Ventilation Tubes Containing Silver Antimicrobials
N Etherington, D Hoyt, D Britt, A Anderson, A Park, G Prestwich
Departments of Biological Engineering and Biology, Utah State University; Departments of Pediatric Otolaryngology and Medicinal Chemistry, University of Utah

18. Decoding of limb angle from simultaneously recorded neuronal populations in peripheral nerves.
DJ Warren, WE Bishop, NM Ledbetter, NAT Brown, GA Clark
Department of Bioengineering, University of Utah; Applied Physics Laboratory, Johns Hopkins University

19. Novel Exendin-4/Polymer Conjugate to Increase Insulin Output from Pancreatic Islets
D Mishra, YH Bae
Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

20. Characterization of mechanical properties and shape-memory behavior of fiber reinforced shape memory polymer composites
D Nair, M Lyons, R Shandas
Department of Mechanical Engineering, University of Colorado, Boulder

21. Evaluating molecular-level changes during co-culture of macrophages and fibroblasts from different sources

DJ Holt and DW Grainger
Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

22. 3D Image Reconstruction on a Circular Short-Scan using the Factorization Approach

F Dennerlein and F Noo
Utah Center for Advanced Imaging Research and Department of Radiology, University of Utah

23. Hybrid Echo Particle Tracking and Imaging Techniques to Improve Two-Dimensional Opaque Flow Measurement

F Zhang, L Liu, H Zheng, R Shandas
Department of Mechanical Engineering, University of Colorado, Boulder; Dept of Pediatric Cardiology - The Children's Hospital, Denver CO

24. Raman Microscopy Studies of pH Gradient Vesicle Loading

GA Myers, JM Harris
Departments of Chemistry and Bioengineering, University of Utah

25. Single-cell electrophysiology and impedimetric chemical sensing on a chip

GM Dittami, HE Ayliffe, CS King, SS Dharia, JJ Wyrick, PF Kiser, RD Rabbitt
Department of Bioengineering, University of Utah

26. Protein Patterning of Multicomponent PEG Bearing Langmuir Monolayers: Influence of Lipid Miscibility, Phase Behavior and PEG Chain Length

H Dhruv, BE Wright, V Hlady, DW Britt
Department of Biological and Irrigation Engineering, Utah State University; Department of Bioengineering, University of Utah

27. Axon but not dendrite regeneration observed surrounding chronically implanted silicon microelectrode arrays in rat cortex.

H Kavarana, B Winslow, PA Tresco
Department of Bioengineering, University of Utah

28. Release of prostaglandin E1 from HPMA copolymer conjugates by different cell types

H Pan, J Liu, M Sima, D Wang, S Miller, P Kopečková, J Kopeček
Departments of Pharmaceutics and Pharmaceutical Chemistry, Bioengineering, and Radiobiology, University of Utah; Department of Pharmaceutical Sciences, College of Phamacy, University of Nebraska Medical Center

29. Diffusion and Binding Kinetics Modeling of Planar Waveguide Biosensors

JD Durtschi, DA Christensen, JN Herron
Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

30. Dynamic Light Scattering Study of the Self-Assembly of HPMA Copolymers Containing Peptide Grafts

J Yang, K Wu, Č Koňák, J Kopeček
Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

31. Tissue Engineering the Vocal Fold: Using Bioreactors to Improve Matrix Accumulation

J Wolchok, PA Tresco
Department of Bioengineering, University of Utah

32. Time Resolved Dielectric Flow Cytometry
J Wyrick, G Dittami, S Dharia, R Rabbitt
Department of Bioengineering, University of Utah

33. High-resolution melting analysis of the CFTR gene: An alternative to traditional scanning methods
J Montgomery, CT Wittwer, L Zhou
Department of Pathology, University of Utah

34. Fabrication and characterization of biomimetic nanoscale chondroitin sulfate surface coatings for use with Si/SiO2 microelectrode arrays
JL Skousen, BK Leung, L Williams, PA Tresco
Department of Bioengineering, University of Utah

35. Imaging Single Molecule Binding Kinetics of Presynaptic Proteins at a Liquid/Solid Interface
JR Wayment, C Hopkinsb, V Jessop, W Davis, E Jorgensen, JM Harris
Departments of Chemistry, Biology, and Bioengineering, University of Utah

36. Decoding Individual Finger Movements Using Electromyographic, Peripheral Nerve, and Motor Cortex Signals
J Baker, D Hutchinson, G Clark, B Greger
Department of Bioengineering, University of Utah

37. An Automated Multielectrode Activation and Characterization System
JD Perry, DJ Warren, K Gunalan, RA Normann, GA Clark
Department of Bioengineering, University of Utah

38. A System for Measuring the Impedance and Shunting of High-Density Microelectrode Arrays
K Gunalan, DJ Warren, RA Normann, JD Perry, GAClark
Department of Bioengineering, University of Utah

39. Development of a Polymeric Gene Carrier to Locally Target Pancreatic Islets
K Blevins, J Jeong, SW Kim
Department of Bioengineering, University of Utah

40. Extent of the brain tissue reaction to penetrating silicon microelectrode arrays in rat cortex is reduced by stereotatic implantation
B Winslow, T Williamson, PA Tresco
Department of Bioengineering, University of Utah

41. Polyurethane vaginal rings for sustained delivery of TMC120
K Gupta, S Pearce, H Aliyar, P Tresco, P Kiser
Department of Bioengineering, University of Utah

42. Sight Restoration by Electrical Stimulation of Visual Cortex via Arrays of Penetrating Microelectrodes
K Torab, R Normann, B Greger
Department of Bioengineering, University of Utah

43. Novel Synthesis of HPMA Copolymers Containing Peptide Grafts and Their Self-Assembly into Hybrid Hydrogels
K Wu, J Yang, P Kopečková, JKopeček
Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

44. A novel approach to detecting and determining the status of epilepsy.
K Thomson, FE Dudek, B Greger
Departments of Bioengineering and Physiology, University of Utah

45. Associative diblock copolymers of poly[N-(2-hydroxypropyl)methacrylamide] and a beta sheet peptide
LC Radu, J Yang, J Kopeček
Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

46. Effects of Mechanical Boundary Conditions on Microvascular Orientation during Angiogenesis
L Krishnan, CJ Underwood, SA Maas, B Ellis, TC Kode, JB Hoying, JA Weiss
Department of Bioengineering, University of Utah; Regenerative Medicine and BIO5 Institute, University of Arizona

47. The Influence of Pluronics® on a Pseudomonad as Illustrated by Biofilm and Phenazine Production
L Housley, T Anderson, S Han, AJ Anderson, DW Britt
Department of Biological Engineering, Utah State University

48. Analysis of intra-group variability in the mouse myocardial fiber structure
LJ Healy, Y Jiang, S Joshi, EW Hsu
Department of Bioengineering, University of Utah; Department of Biomedical Engineering, Duke University

49. Inhibition of endothelial cell migration by cyclic stretch is mediated through reactive oxygen species
LC Sun, CT Quam, JA Jensen, and Y-T E Shiu
Department of Bioengineering, University of Utah

50. High-throughput in situ Biomolecule Analysis Integrating a 3-D Microfluidic Flow Cell Array and SPR Microscopy
MA Eddings, J Liu, J Shumaker-Parry, BK Gale
Departments of Bioengineering, Chemistry and Mechanical Engineering, University of Utah

51. Cyclic stretch affects endothelial tubulogenesis in a strain-dependent manner
M Iwamoto, J Jensen, V Chernyshev, Y-T Shiu
Department of Bioengineering, University of Utah

52. Chemorheology of phenylboronate-salicylhydroxamate crosslinked hydrogels
MC Roberts, MC Hanson, A Mahalingam PF Kiser
Department of Bioengineering, University of Utah

53. The role of perithreshold oscillations in synaptic integration in stellate cells of the medial entorhinal cortex
MN Economo, E Idoux, LE Moore, JA White
Department of Biomedical Engineering, Center for BioDynamics, Center for Memory and Brain, Boston University; Centre National de la Recherche Scientifique, Université Paris 5

54. Effects of fiberglass reinforcement on the mechanical and thermomechanical properties of a shape-memory polymer

MB Lyons, R Shandas
Department of Mechanical Engineering; University of Colorado at Boulder; Boulder, CO; Division of Cardiology; The Children's Hospital; Denver, CO

55. Designing a Reliable Genetic Muller C-Element

N-P D Nguyen, H Kuwahara, CMyers, J Keener
Departments of Computer Science, Electrical Engineering, Mathematics and Bioengineering, Univeristy of Utah

56. Strain Measurement in the Left Ventricle during Systole

NS Phatak, SA Maas, AI Veress, NA Pack, EVR DiBella, JA Weiss
Departments of Bioengineering, Radiology, and Scientific Computing and Imaging Institute, University of Utah

57. Local Delivery of PDGF-BB for Wound Healing Applications: Protein Release Versus Adenoviral Production Study for the Development of a Combinatorial Device

P Hogrebe, K Bachus, D Grainger
Departments of Bioengineering, Orthopaedics, and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

58. Repeatibility of a Virtual Marker Based Foot Model

P Sawaswat, B MacWilliams, RB Davis
Department of Bioengineering, Movement Analysis Lab - Shriners Hospital for Children, University of Utah

59. Controlled Vessel Occlusion by Thermal and Ultrasound Responsive Microbubbles for Tumor Therapy

P Mohan, N Rapoport, M Skilar
Departments of Chemical Engineering and Bioengineering, University of Utah

60. Optical Mapping of Propagation Changes during Ischemia in GLUT4-Deficient Mouse Hearts

Q Liang, A Wende, ED Abel, K Sohn, BB Punske
Nora Eccles Harrison Cardiovascular Research and Training Institute, Department of Human Molecular Biology and Genetics, and The Department of Bioengineering, University of Utah

61. Improvement of Image Quality using an Exact Algorithm in X-ray multi-slice CT

R Venkataraman, F Noo
Departments of Electrical & Computer Engineering and Radiology, and Utah Center for Advanced Imagaing and Research, University of Utah

62. Modeling Local Delivery of Dipyridamole and Rapamycin To Prevent Neointimal Hyperplasia In A Hemodialysis Vascular Access Graft

RJ Christopherson, RM Kirby, CM Terry, AK Cheung, Y-T E Shiu
Departments of Bioengineering and Computer Science, Scientific Computing and Imaging Instutute, and Division of Nephrology, University of Utah

63. Heterogeneous Nav1.5 Distribution Between Ventricles Underlies Conduction Heterogeneities In the Brugada Syndrome

Rengasayee Veeraraghavan, Steven Poelzing
Department of Bioengineering, University of Utah

64. PAMAM Dendrimers: Surface Modification and Potential in Oral Delivery of SN-38

RB Kolhatkar, D Sweet, H Ghandehari

Center for Nanomedicine and Cellular Delivery, Departments of Pharmaceutical Sciences and Bioengineering, University of Maryland

65. Genetically Engineered Silk-Elastinlike Polymers (SELPs) For Controlled Adenoviral Gene Delivery

R Dandu, D Hwang, K Araki, D Li, J Cappello, H Ghandehari

Center for Nanomedicine and Cellular Delivery, Departments of Pharmaceutical Sciences and Bioengineering, University of Maryland; Department of Otorhinolaryngology, University of Pennsylvania Health System; Protein Polymer Technologies, Inc., San Diego, C

66. Visualization of Fibrotic Low Voltage Tissue Utilizing Delayed Enhancement MRI in the Left Atrium

RS Oakes, TJ Badger, E Fish, JE Blauer, EG Kholmovski, CJ McGann, NF Marrouche, RS MacLeod

Nora Eccles Harrison Cardiovascular Research and Training Institute, Division of Cardiology - Internal Medicine - School of Medicine, Departments of Bioengineeirng and Radiology, University of Utah.

67. A Bidirectional Fluid-Structure Interaction Simulation Applied to the Total Cavopulmonary Connection: A Patient Specific Study

R Wang, FG Lacour-Gayet, K Hunter, CJ Lanning, R Shandas

Department of Mechanical Engineering, University of Colorado-Boulder, CO; Cardiothoracic Surgery, Children's Hospital, CO; Department of Pediatric Cardiology, University of Colorado Health Sciences Center, CO

68. Interactions of a multi-targeted nanocarrier with the B-cell antigen CD20

R Johnson, P Kopečková, J Kopeček

Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

69. Visualizing Excitable Cell Membranes via Micro Electric Impedance Tomography

S Dharia, HE Ayliffe, C King, G Dittami, J Wyrick, A Pungor, RD Rabbitt

Department of Bioengineering, University of Utah

70. Stimulation of sciatic nerve via Utah Slanted Electrode Arrays evokes potentials in somatosensory cortex.

GA Clark, DJ Warren, NM Ledbetter

Department of Bioengineering, University of Utah

71. Use of stimulus-evoked compound action potentials recorded by Utah Slanted Electrode Arrays to assay nerve somatotopy.

NM Ledbetter, DJ Warren, NAT Brown, BR Dowden, SA Towns, RA Normann, GA Clark

Departments of Bioengineering and Orthopaedics, University of Utah

72. Macroscopic and microscopic structure and composition analysis of normal cat sciatic nerve.

SM Pearce, MB Christensen, FE Vegah, PA Tresco

Department of Bioengineering, University of Utah

73. Effects of Fluorescence Label Position on DNA Microarray Assay Performance

P Gong, S Bevers, DW Grainger

Department of Chemical and Biological Engineering, Brooklyn Polytechnic University; Departments of Bioengineering and Pharmaceutics & Pharmaceutical Chemistry, University of Utah

74. Wireless Integrated Neural Interface Device for Chronic Neural Signal Recording
S Kim, P Tathiereddy, L Rieth, R Harrison, RA Normann, F Solzbacher, M Klein, M Toepper, H Oppermann
Departments of Bioengineering and Electrical and Computer Engineering, University of Utah; Fraunhofer Institute for Reliability and Microintegration (IZM), Berlin, Germany

75. Effect of Ionic Silver on the Inflammatory and Wound Healing Response
S Fife, H Patel, E Bowen, F Purser, S Kwon
Department of Biological Engineering, Utah State University

76. The effect of pulmonary hypertension on the structure and mechanical properties of elastin
S Lammers, P Kao, HJ Qi, KR Stenmark, R Shandas
Department of Mechanical Engineering, University of Colorado - Boulder; Department of Pediatrics, Developmental Lung Biology Laboratory, University of Colorado Health Sciences

77. The effects of streptomycin on strain-conduction velocity relationship in rabbit papillary muscle
TG McNary, K Sohn, B Taccardi, FB Sachse
Department of Bioengineering and CVRTI, University of Utah

78. The Effects of Propofol Anesthesia on Cortical Activity in Human Patients Undergoing Temporal Lobe Resection for Epilepsy
T Davis, P House, B Greger
Departments of Bioengineering and Neurosurgery, University of Utah

79. Hybrid Angular Spectrum Method for Ultrasound Beam Propagation
U Vyas, DA Christensen.
Department of Bioengineering, University of Utah

80. Minocycline reduces inflammation and neuronal loss in the recording zone of planar microelectrode arrays implanted in rat cortex
XK Chen, PA Tresco
Department of Bioengineering, University of Utah

81. Making nanoreactors for hydrogen peroxide detection in blood
M Chen, A Ostafin
Materials Science and Engineering Department, University of Utah

82. Study of Human Plasma Proteins Interaction with Surface Gradient Using TIRF and Autoradiography
Y-X Ding, B Wright, V Hlady
Department of Bioengineering, University of Utah

83. Q-ball Imaging reveals complex fiber structure in myocardium
Y Shi, EW Hsu
Department of Bioengineering, University of Utah

84. Inhibiting osteoclast resorption using small interfering RNAs
Y Wang, DW Grainger
Department of Pharmaceutics and Pharmaceutical Chemistry, University of Utah

85. Multifunctional nanoparticles for combining ultrasounic tumor imaging and targeted chemotherapy
Z Gao, HD Fain, N Rapoport
Department of Bioengineering, University of Utah

86. A.L. Gore & Associates
M Mulder
A.L. Gore & Associates, Flagstaff, AZ

87. Electrical activity of GLUT4-Deficient hearts during hypoxia
K Sohn, Q Liang, A Wende, ED Abel, BB Punske
Department of Bioengineering, Human Molecular Biology and Genetics, and Nora Eccles Harison Cardiovascular Resarch and Training Institue, University of Utah

HIGHLIGHTED POSTER

88. USTAR (Utah Science Technology and Research Initiative)
State of Utah

In March 2006, the Utah State Legislature passed Senate Bill 75 creating the Utah Science Technology and Research (USTAR) initiative. USTAR provides funding for strategic investments at the University of Utah and Utah State University to recruit world-class researchers, build state-of-the-art interdisciplinary research and development facilities and to form first-rate science, innovation, and commercialization teams across the State. This initiative focuses on leveraging the proven success of Utah's research universities in creating and commercializing innovative technologies to generate more technology-based start-up firms, higher paying jobs, and additional business activity leading to a state-wide expansion of the Utah's tax base.

Conference Organizing Committee

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