2nd Health Care Engineering Systems Symposium
Monday, September 14, 2015
Chancellor Room, I Hotel

AGENDA

8:30 AM - 9:00 AM
Arrival of the Participants
Breakfast and Registration

9:00 AM - 10:00 AM
Andreas Cangellaris
Dean, College of Engineering-UIUC
Opening of Symposium

Peter Schiffer
Vice Chancellor of Research-UIUC
Opening Remarks

Kevin Schoeplein
CEO, OSF Healthcare System
Remarks and Presentation of William DiSomma

William DiSomma
Managing Director, Jump Trading
Remarks

T 'Kesh' Kesavadas
Director, Health Care Engineering Systems Center
Remarks

John Vozenilek
Director, Jump Trading Simulation and Education Center
Remarks

Rashid Bashir
Head, Department of Bioengineering
Presenting New Medical School

T 'Kesh' Kesavadas
Opening of Presentations
10:00 -10:50 AM
John Vozenilek, Moderator

The Clinical Agenda
Stephen Hippler
Senior Vice President of Clinical Excellence, Interim Chief Clinical Officer

Current Issues Facing Providers of Care
Lori Wiegand
Chief Nursing Officer, OSF Healthcare System

The Jump Simulation Research Agenda
William Bond
Director of Research, Jump Trading Simulation and Education Center, OSF Healthcare System and Professor of Clinical Emergency Medicine, UICOMP

The Jump Simulation the Advanced Imaging and Modeling
Matthew Bramlet
Director of the Advanced Imaging and Modeling Program, Jump Trading Simulation and Education Center, OSF Healthcare System and Assistant Professor of Clinical Pediatrics, UICOMP

Improving 3D Avatar Models for Applications to Healthcare
Donald Halpin
Director for Human Factors, Jump Trading Simulation and Education Center, OSF Healthcare System

Innovation as a Strategic Imperative Healthcare
Michelle Conger
Senior Vice President, OSF Healthcare System, Chief Strategy Officer

Transformation of Care Delivery to Population Health
Jeff Tillery
Senior Vice President and Chief Transformation Officer, OSF Healthcare System

Break

11:00 AM -12:00 Noon
Rakesh Nagi, Moderator

Development of a Robotic Forearm to Simulate Abnormal Muscle Tone Due to Brain Lesions
Elizabeth Hsiao-Wecksler

Diffuse Optical Imaging of Neural Activity in Humans
Gabriele Gratton
Future Trends in Emission Tomography Instrumentations
Ling-Jian Meng

ASPIRE: Automation Supporting Prolonged Independent Residence for the Elderly
Venanzio Cichella

Low-Cost Optical Screening and Diagnostic Instruments for Primary Care
Stephen Boppart

Predictive Healthcare
Ravi Iyer

Towards Resiliency in Cyber-physical Systems for Robot-assisted Surgery
Homa Alemzadeh

Insertable Robot Arm for Minimally Invasive Surgery
Placid Ferreira

3-D Printing of Biological Systems for Tissue Engineering and Biological Soft Robotics
Rashid Bashir

12:00 -1:00 PM
Lunch
Quad room and Lobby

1:15 -2:15 PM
Liz Hsiao-Wecksler, Moderator
Towards a High Speed 3D Nonlinear Soft Tissue Deformation Simulation
Iwona Jasiuk

Simulating Fracture Reduction: The Importance of Passive Tissues for Restoring Joint Motion
Mariana Kersh

High Fidelity Methods for Blood Flow Simulation in Patient-specific Geometries: Blue Waters Platform and Massively Parallel Computing
Arif Masud

Intelligent Assistive Robots for Rehabilitation and Surgery
Pramod Chembrammel
Fracture Resistance of Biological Tissues: A Theoretical and Experimental Study
Ange Therese Akono

Point of Care Sensors for Early Sepsis Stratification
Bobby Reddy Jr.

CyPhy - 3D Teleimmersion for Home-Care Rehabilitation
Klara Nahrstedt

Patient Discharge Process and Communications Simulation Training
Deborah L. Thurston

Annual Rotation Schedules in Real-Time: Simplifying Life for an Internal Medicine Residency Program
Sheldon Jacobson

Break

2:25 -3:25PM
Klara Nahrstedt, Moderator

Conversational Agents and Comprehension of Self-Care Information in EHR Patient Portals
Dan Morrow

Fall Risk Assessment: The Potential for Home-based Technology
Jacob Sosnoff

Chemical Imaging and Printed Structures for Pathology
Rohit Bhargava

Reducing the Duration and Severity of Multiple Sclerosis Exacerbations in a Rat Model through Ultrasound-Based Lymphocyte Depletion
Michael Oelze

MRI-based Modelling of Traumatic Brain Injury
Martin Ostoja-Starzewski

Software Testing for Healthcare Software
Darko Marinov

3D Imaging and Augmented Reality for Health Care
Minh Do
Lifestyle Disease Surveillance via Social Media
Lav Varshney

Using Magnetic Resonance Imaging to Study the Speech Neuromuscular System
Brad Sutton

Application of 3D Avatar in Health
Thomas Huang

Break

3:30 - 4:30 PM

Poster Session-Lobby of Chancellor Room

Role of Self Performed Ambulatory Electrocardiogram (ECG) by Patients in Assisting On Demand Consultation to Rule Out Life Threatening Conditions
Sandeep Banga

A mHealth Technology for Preventing Shoulder Injury in Manual Wheelchair Users
Adam Burns

Soft, Hydrated Matter Lubrication
Alison C. Dunn

Biomimicry for Healthcare Applications: Bone as an Example
Ahmed Elbanna

Toward Fast and Inexpensive DNA Sequencing: Intrinsic Stepwise Translocation of Stretched ssDNA through Graphene Nanopores
Qiu Hu

Perceived Pitch Shifts Elicit Vocal Corrections in Cochlear Implant Patients
Torrey Loucks

Predictive Modeling and Uncertainty Quantification for Engineered and Natural Complex Systems
Hadi Meidani

Spatial Light Interference Microscopy for Quantitative Biomedicine
Gabriel Popescu
Health Monitors for Chronic Disease by Gait Analysis with Mobile Phones
Bruce Schatz

Therapeutic Video Games
Rizwan Uddin

Live Cadaver: For Practicing the Management of Traumatic Injuries
Richard Pearl

4:30 PM
Reception at Jump Labs
2100 Oak Street, Research Park
(http://researchpark.illinois.edu/directory/jump-labs)