Presentation Program for the 16th Symposium on Haptic Interfaces for Virtual Environments and Teleoperator Systems

Wednesday March 12, 2008

Poster/demo/exhibit setup (12:00-18:00 in Expo C)

Welcome Reception (food provided) 18:00-20:00 in Expo C)

Day 1 - Thursday March 13, 2008

Breakfast (7:00-8:15 in Pre-Function Salon)

Assemble/Welcome (8:15-8:30 in Expo A)

Oral Presentations 15 minutes total with 12 minutes to present and 3 minutes for questions.

Each 30 minute Poster Teaser Session will include presentations of a single PowerPoint slide and 1 minute oral presentation for each poster with no time allocated for questions.

Session 1 - Perception I (8:30-10:00 in Expo A)

Paper Title	Author(s)
The geometric model for perceived roughness applies to virtual textures	Bertram Unger, Ralph Hollis, Roberta Klatzky
The Integration and Dissociation of Thermal and Frictional Cues during Material Identification	Daniel Shang, Heather Carnahan
Discrimination of Vowels with a Multi-finger Tactual Display	Ali Israr, Charlotte Reed, Hong Tan
Passive and Active Kinesthetic Perception Just Noticeable Difference for Natural Frequency of Virtual Dynamic Systems	Yanfang Li, Ali Israr, Volkan Patoglu, Marcia O'Malley
Localization and Pattern Recognition with Tactile Displays	Lynette Jones, Kathryn Ray
Discrimination of Virtual Square Gratings by Dynamic Touch on Friction Based Tactile Displays	Mélisande Biet, Géry Casiez, Frédéric Giraud, Betty Lemaire-Semail

Break (10:00-10:30 in Pre-Function Salon)

Session 2 - Dynamics and Controls (10:30-12:00 in Expo A)

Paper Title	Author(s)
Adaptive Control of Haptic Interaction with Impedance and Admittance Type Virtual Environments	Amin Abdossalami, Shahin Sirouspour
Haptic Solutions and Bio-Mimetically Inspired Motion Planning Strategy for Rolling-Based Locomotion	Igor Goncharenko, Mikhail Svinin, Shigeyuke Hosoe, Yutaka Kanou
Hybrid Control with Multi-Contact Interactions for 6DOF Haptic Foot Platform on a Cable-Driven Locomotion Interface	Martin J.D. Otis, Charles du Tremblay, Francois-Michel De Rainville, Marielle Mokhtari, Denis Laurendeau, Clément M. Gosselin
Measuring and Increasing Z-Width with Active Electrical Damping	David Weir, J. Edward Colgate, Michael Peshkin
Stability Analysis and Design of Multi-dimensional Haptic Systems	Gianni Bianchini, Marcello Orlandesi, Domenico Prattichizzo
Large Workspace Haptic Devices - A New Actuation Approach	Michael Zinn, Oussama Khatib, Bernard Roth, J. Kenneth Salisbury

Lunch 12:00-13:00

Session 3 - Rendering and Modeling (13:00-14:30 in Expo A)

Paper Title	Author(s)
Haptizing Surface Topography with Varying Stiffness Based on Force Constancy: Extended Algorithm	Jaeyoung Cheon, Inwook Hwang, Gabjong Han, Seungmoon Choi
Data-Driven Haptic Rendering of Visco-Elastic Effects	Raphael Hoever, Matthias Harders, Gabor Székely
Modeling Realistic Tool-Tissue Interactions with Haptic Feedback: A Learning-based Method	Zachary Pezzementi, Daniel Ursu, Sarthak Misra, Allison Okamura
A New Line-based Algorithm for Real Time Haptic Interactions with Virtual Environments	Anderson Maciel, Suvranu De
Perceptual Rendering for Learning Haptic Skills	Timothy Edmunds, Dinesh Pai
A Multi-criteria Design Optimization Framework for Haptic Interfaces	Ramazan Unal, Gullu Kiziltas, Volkan Patoglu

Poster Teaser I (14:30-15:00 in Expo A)

Poster ID	Paper Title	Author(s)
213	Validation of a 3-D Finite Element Human Fingerpad Model Composed of Anatomically Accurate Tissue Layers	Matt Wagner, Gregory Gerling, Jacob Scanlon
118	Finger Shell: Predicting Finger Pad Deformation under Line Loading	Mitsunori Tada, Dinesh Pai
145	Influences of Inter-Stream Synchronization Error on Collaborative Work in Haptic and Visual Environments	Takeshi Fujimoto, Yutaka Ishibashi, Shinji Sugawara
187	Force Amplitude Perception in Six Orthogonal Directions	Enkhtuvshin Dorjgotov, Gary Bertoline, Laura Arns, Zygmunt Pizlo, Steven Dunlop
111	Texture meets Text: On the Kinematics of Braille Reading	Barry Hughes, Arend W A Van Gemmert, George E. Stelmach
215	Validating the Performance of Haptic Motor Skill Training	Xing Dong Yang, Walter Bischof, Pierre Boulanger
156	Haptic Simulation of Deformable Bodies with Consideration of the Human Sensation of Continuous Forces	Gerhard Schillhuber, Heinz Ulbrich
159	Perceived Magnitudes of Vibrations Transmitted Through Mobile Device	Jonghyun Ryu, Jaehoon Jung, Seungmoon Choi
194	Effects of Proprioceptive Motion Feedback on Sighted and Non-Sighted Control of a Virtual Hand Prosthesis	Amy Blank, Allison Okamura, Katherine Kuchenbecker
227	Haptic-enabled Collaborative Training with Generalized Force and Position Mappings	Saba Moghimi, Shahin Sirouspour, Pawel Malysz
205	High Bandwidth, Large Workspace Haptic Interaction: Flying Phantoms	Alastair Barrow, William Harwin
151	Analysis of Registration Accuracy for Collocated Haptic-Visual Display System	Dangxiao Wang, Yuru Zhang, Yu Wang
199	Virtual Laboratory: a Virtual Distributed Platform to Share and Perform Experiments	Paolo Tripicchio, Emanuele Ruffaldi, Carlo Alberto Avizzano, Massimo Bergamasco
242	Voxel-Based Haptic Rendering Using Implicit Sphere Trees	Emanuele Ruffaldi, Dan Morris, Federico Barbagli, Kenneth Salisbury, Massimo Bergamasco
109	Manipulation of Dynamically Deformable Object	Kazuyoshi Tagawa, Koichi Hirota, Michitaka Hirose
209	Passive Position Feedback over Packet-Switching Communication Network with Varying-Delay and Packet-Loss	Dongjun Lee, Ke Huang
236	Mediating Time Delayed Teleoperation with User Suggested Models: Implications	Probal Mitra, Günter Niemeyer

	and Comparative Study	
240	Analysis and Experimentation of a 4-DOF Haptic Device	Andy Ma, Shahram Payandeh
152	Tangible Images: Runtime Generation of Haptic Textures From Images	Hari Vasudevan, Manivannan Muniyandi
238	Evaluating ALPHAN: A Communication Protocol for Haptic Interaction	Mohamad Eid, Hussein Al Osman, Abdulmotaleb El Saddik

Poster/Demo Session I & Break (15:00-16:00 in Expo C)
All posters and demos will be on display

Session 4 - Taction and Teleoperation (16:00-17:30 in Expo A)

Paper Title	Author(s)
The Touch Thimble: Providing Fingertip Contact Feedback During Point-Force Haptic Interaction	Katherine Kuchenbecker, David Ferguson, Michael Kutzer, Matthew Moses, Allison Okamura
Graphical Reproduction of Tactile Information of Embedded Lumps for MIS Applications	Mohammadreza Ramezanifard, Saeed Sokhanvar, Javad Dargahi, Wen-Fang Xie, Muthukumaran Packirisamy
Judging the Effectiveness of a Passive Haptic Device in Teleoperation Based on the Average Angular Error in Force Generation	Benjamin Black, Wayne Book
Experimental Internet Haptic Collaboration Using Virtual Coupling Schemes	Ganesh Sankaranarayanan, Blake Hannaford
Telemanipulators with Sensor/Actuator Asymmetries Fail the Robustness Criterion	Lawton Verner, Allison Okamura
Characterizing Teleoperator Behavior for Feedback Design and Performance Analysis	Paul Griffiths, Brent Gillespie

Banquet (Sponsored by Immersion Corporation Immersion**) (18:30-20:00)**

Day 2 - Friday March 14, 2008

Breakfast (7:00-8:30 in Pre-Function Salon)

Session 5 - Perception II (8:30-10:15 in Expo A)

Paper Title	Author(s)
The Role of Choice in Longitudinal Recall of Meaningful Tactile Signals	Mario Enriquez, Karon MacLean
Haptic Rendering and Psychophysical Evaluation of a Virtual Three-Dimensional Helical Spring	Vinithra Varadharajan, Roberta Klatzky, Bertram Unger, Robert Swendsen, Ralph Hollis
Influence of Visuomotor Action on Visual-Haptic Simultaneous Perception: A Psychophysical Study	Zhuanghua Shi, Sandra Hirche, Werner Schneider, Hermann Müller
Comparison of Skin Stretch and Vibrotactile Stimulation for Feedback of Proprioceptive Information	Karlin Bark, Jason Wheeler, Sunthar Premakumar, Mark Cutkosky
Visual-Haptic Perception of Compliance: Fusion of Visual-Haptic Information	Martin Kuschel, Franziska Freyberger, Roberta L. Klatzky, Martin Buss, Berthold Faerber
Haptic Identification of Stiffness and Force Magnitude	Steven Cholewiak, Hong Tan, David Ebert
Assessment of Vibrotactile Feedback in a Needle-Insertion Task using a Surgical Robot	Sumanth Peddamatham, William Peine, Hong Tan

Poster Teaser II (10:15-10:45 in Expo A)

Poster ID	Paper Title	Author(s)
147	Interactive Representation of Virtual Object in Hand-Held Box by Finger-Worn Haptic Display	Kouta Minamizawa, Souichiro Fukamachi, Naoki Kawakami, Susumu Tachi
132	1DOF Sensor and Display system of Haptic and Temparature Sensation	Hiroaki Yano, Itsuro Hayashi, Hiroo Iwata
180	Cable-Driven Tactor for Tactile Situational Awareness Systems	Christopher Wagner, Amanda Christiana
232	Toward Developing a Velocity Controlled Tactile Impact Display	Brian T. Gleeson, William R. Provancher
231	A Plate Tuning Fork Shaped Tactile Display Using Elastic Waves	Chaodong Li, Hua Yao, Jingjing Xu, Yanyan Zhang, Boqian Kuang
163	Haptic Implications of Tool Flexibility in Surgical Teleoperation	Mahdi Tavakoli, Robert Howe
237	Passive Viscous Haptic Textures	Gianni Campion, Andrew Gosline, Vincent Hayward

142	Tactile Graphics Rendering Using Three Laterotactile Drawing Primitives	Vincent Lévesque, Vincent Hayward
148	Navigation Guidance Control Using Haptic Feedback for Obstacle Avoidance of Omni-directional Wheelchair	Yasumasa Kondo, Takanori Miyoshi, Kazuhiko Terashima, Hideo Kitagawa
121	Feel the Pressure: E-learning System with Haptic Feedback	Felix Hamza-Lup, Michele Adams
216	Visualizing Human Behavioral Features based on Signature Haptic Data	Rosa Iglesias, Mauricio Orozco, Julio J. Valdes, Abdulmotaleb El Saddik
204	Constructing and Evaluating Vibration Magnitude Models for Visualization	Yuan Wang, Martin Turner, Terry Hewitt
223	Force-Feedback Surgical Teleoperator: Controller Design and Palpation Experiments	Mohsen Mahvash, Jim Gwilliam, Rahul Agarwal, Balazs Vagvolgyi, Li-Ming Su, David Yuh, Allison Okamura
211	Haptic Weather	Chaehyun Lee, Bernard Adelstein, Seungmoon Choi
120	Haptic Simulation of Elbow Joint Spasticity	David Grow, Mengnan (Mary) Wu, Michael Locastro, Sugandha Arora, Amy Bastian, Allison Okamura
189	A Haptic Interface with Motor/Brake System for Colonoscopy Simulation	Evren Samur, Lionel Flaction, Ulrich Spaelter, Hannes Bleuler, David Hellier, Sebastien Ourselin
224	RoSS: Virtual Reality Robotic Surgical Simulator for the DaVinci Surgical System	Ankur Baheti, Amrish Kumar, Govindarajan Srimathveeravalli, Kesavadas Thenkurissi, Khurshid Guru
203	A Tactile Display Presenting Pressure Distribution and Slippage Force	Yiru Zhou, Masahiro Ohka, Tetsu Miyaoka

Poster/Demo Session II & Break (**10:45-12:15 in Expo C**)
All posters and demos will be on display

Lunch 12:15-13:15

Session 6 - Applications (13:15-15:00 in Expo A)

Paper Title	Author(s)
Haptic Characteristics of Document Conservation Tasks	Rainer Leuschke, Regina Donlin, Maria Nugent, Marc Claus, Dianne van der Reyden, Blake Hannaford
Toys in the Classroom: LEGO MindStorms as an Educational Haptics Platform	Adam Brandt, Mark Colton
Haptic Guidance Benefits Musical Motor Learning	Graham Grindlay
Full-Arm Haptics in an Accessibility Task	Matt Frey, David Johnson, John Hollerbach
On the Design of a Thermal Display for Upper Extremity Prosthetics	Keehoon Kim, J. Edward Colgate, Michael Peshkin
Using Haptics to Convey Cause and Effect Relations in Climate Visualization	Nesra Yannier, Cagatay Basdogan, Serdar Tasiran, Omer Lutfi Sen
Modeling of the Lap-Band® for Laparoscopic Adjustable Gastric Banding Operation	Woojin Ahn, Daniel B. Jones, Doo Yong Lee, Suvranu De

Awards and Announcements (15:00-15:30 in Expo A)

(Sponsored by Immersion ![Immersion logo]**, Force Dimension** ![force dimension logo]**, and SensAble Technologies** ![SensAble logo]**)**

Adjourn (15:30)

Poster and demo take-down (15:30-17:00 in Expo C)

Room Map of **Silver Legacy Hotel** (from Hotel Site by permission)

LOWER LEVEL FLOOR PLAN & MAP

CATERING OFFICE	BRONZE	SILVER	GOLD	PLATINUM	STAIRS TO CASINO LEVEL

WOMEN'S RESTROOM

ELEVATOR TO CASINO & MEZZANINE LEVELS

ESCALATORS TO CASINO & MEZZANINE LEVELS

ESCALATORS RAMP

PRE-FUNCTION SALON

MEN'S RESTROOM

FREIGHT ELEVATOR

GRANDE EXPOSITION HALL

EXPO A

EXPO B

EXPO C