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Role of Fingerprint Mechanics and non-Coulombic Friction in Ultrasonic Devices
Eric Vezzoli, Brigida Dzidek, Thomas Sednaoui, Frederic Giraud, Michael Adams, Betty Lemaire-Semail

A Novel Tactile Display for Softness and Texture Rendering in Tele-Operation Tasks
Matteo Bianchi, Marta Poggiani, Alessandro Serio, Antonio Bicchi

Surface Haptics via Electroadhesion: Expanding Electrovibration with Johnsen and Rahbek
Craig Shultz, Michael Peshkin, Ed Colgate

Characterization of Nonlinear Finger Pad Mechanics for Tactile Rendering
Eder Miguel, Maria Laura D’Angelo, Ferdinando Cannella, Matteo Bianchi, Mariacarla Memeo, Antonio Bicchi, Darwin G. Caldwell, Miguel A. Otaduy

Session: Perception - Softness and Size
Session Chairs: Mounia Ziat and Martha Flanders

Predictive and sensory signals systematically lower peak forces in the exploration of softer objects
Alexandra Lezkan, Knut Drewing

Haptically perceived softness of deformable stimuli can be manipulated by applying external forces during the exploration
Anna Metzger, Knut Drewing

The effect of damping on the perception of hardness
Femke E. van Beek, Dennis J.F. Heck, Henk Nijmeijer, Wouter M. Bergmann Tiest, Astrid M.L. Kappers

The Effect of Indentation Force and Displacement on Visual Perception of Compliance
Evan Fakhoury, Peter Culmer, Brian Henson

Inside vs. Outside: Haptic Perception of Object Size
Wouter Bergmann Tiest, Vincent Hayward

Felt hole size depends on force and on the pliability of the effector
Knut Drewing, Steffen Bruckbauer, Dora Szoke

Session: Texture
Session Chairs: Yon Vissell and Seokhee Jeon

Should Haptic Texture Vibrations Respond to User Force and Speed?
Heather Culbertson, Katherine Kuchenbecker

Using EEG (SS-EPs) to characterize the brain activity in response to textured stimuli in passive touch
Athanasia Moungou, Jean-Louis Thomnard, André Mouraux

Looking for Physical Invariants in the Mechanical Response of a Tactually Scanned Braille Dot
Séréna Bochereau, Stephen Sinclair, Vincent Hayward

Modeling and Synthesis of Tactile Texture with Spatial Spectrograms for Display on Variable Friction Surfaces
David Meyer, Michael Peshkin, Edward Colgate

Data-Driven Modeling of Isotropic Haptic Textures Using Frequency-Decomposed Neural Networks
Sungkwon Shin, Reza Haghighi Osgouei, Ki-Duk Kim, Seungmoon Choi

Tactile Sensation Transmission from a Robotic Arm to the Human Body via a Haptic Interface
Mohammadreza Motamedi, Jean-Philippe Roberge, Vincent Duchaine
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[TP-Tu-R4-2] Investigating Remote Sensor Placement for Practical Haptic Sensing with EndoWrist Surgical Tools
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[TP-Tu-R4-3] Design and evaluation of a compact, integrated fMRI-compatible force sensor printed by additive manufacturing
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Won-Hyeong Park, Tae-Heon Yang, Yongjae Yoo, Seungmoon Choi, Sang-Youn Kim

[TP-Tu-R4-5] Current over-stressing small DC motors to evaluate performance limits of electromechanical actuators for haptic applications
Rebecca Jarman, Balazs Janko, William Harwin

[TP-Tu-R4-6] The Design of Pressure-controlled Valves for a Refreshable Tactile Display
Alexander Russomanno, Brent Gillespie, Sile O’Modhrain, Mark Burns

Session: Haptic Technology - Devices and Algorithms for Feedback and Exploration
Session Chairs: Cagatay Basdogan and Vincent Hayward

[TP-We-F-1] A Novel Parallel Haptic Device with 7 Degrees of Freedom
Patrice Lambert, Just Herder

[TP-We-F-2] The Slip-Pad: A Haptic Display Using Interleaved Belts to Simulate Lateral and Rotational Slip
Colin Ho, Jonathan Kim, Ken Goldberg

[TP-We-F-3] Development and Evaluation of a Portable MR Compatible Haptic Interface for Human Motor Control
Ildar Farkhatdinov, Arnaud Garnier, Etienne Burdet

[TP-We-F-4] Shape and Friction Recognition of 3D Virtual Objects by Using 2-DOF Indirect Haptic Interface
Hiroaki Yano, Shoichiro Taniguchi, Hiroo Iwata

[TP-We-F-5] Bioinspired Artificial Fingertips that Exhibit Friction Reduction when Subjected to Transverse Ultrasonic Vibrations
Rebecca Fenton Friesen, Michael Wiertlewski, Michael Peshkin, Ed Colgate

[TP-We-F-6] Surface Classification Using Acceleration Signals Recorded During Human Freehand Movement
Matti Strese, Clemens Schober, Eckehard Steinbach

Session: Human-Computer Interaction
Session Chairs: Manuel Cruz and Ali Israr

[TP-We-R1-1] Haptic Keyclick Feedback Improves Typing Speed and Reduces Typing Errors on a Flat Keyboard
Zhaoyuan Ma, Darren Edge, Leah Findlater, Hong Tan

[TP-We-R1-2] Effect of Information Content in Sensory Feedback on Typing Performance using a Flat Keyboard
Jin Ryong Kim, Hong Z. Tan

[TP-We-R1-3] Emotional Responses of Tactile Icons: Effects of Amplitude, Frequency, Duration, and Envelope
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Session: Dynamics and Interaction
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[TP-We-R2-2] Parasitic Effects of Device Coupling on Haptic Performance
Colin Gallercher, John Willis, Jozsef Kovecses

[TP-We-R2-3] A neuromusculoskeletal model of the human upper limb for a myoelectric exoskeleton control using a reduced number of muscles
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[TP-We-R2-6] Multi Degree-of-Freedom Input-to-State Stable Approach for Stable Haptic Interaction
Aghil Jafari, Muhammad Nabeel, Jee-Hwan Ryu

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[TP-We-R3-2] Data-Driven Haptic Modeling and Rendering of Deformable Objects Including Sliding Friction
Sunghoon Yim, Seokhee Jeon, Seungmoon Choi

[TP-We-R3-3] Direct Impulse-based Rendering in Force Feedback Haptics
Arash Mohtat, Jozsef Kovecses

[TP-We-R3-4] A Smoothed Particle Hydrodynamics Algorithm for Haptic Rendering of Dental filling materials
Brian Tse, Alaistair Barrow, Barry Quinn, William Harwin

[TP-We-R3-5] Soft Finger Tactile Rendering for Wearable Haptics
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Session: Perception - Applied
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Session Chairs: Hiroyuki Kajimoto and Sriram Subramanian

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