



		Premier Ballroom A+B
Session Title	Live Demo Presentation Session 1 (D1A1~D1A30)	
Session Chair	Antonio Frisoli (SSSA, Italy)	
Date	November 15, 2018 (Thursday)	
Time	10:00~11:30(90')	

- D1A01 10:00-10:03(3')** **Drone Based Kinesthetic Haptic Interface for Virtual Reality Applications**
Muhammad Abdullah¹, Ahsan Raza¹, Yoshihiro Kuroda¹, and Seokhee Jeon²
¹Kyung Hee University, Korea, ²Osaka University, Japan
- D1A02 10:03-10:06(3')** **Encounter-type Haptic Feedback System Using an Acoustically Manipulated Floating Object**
Takuro Furumoto, Yutaro Toide, Masahiro Fujiwara, Yasutoshi Makino, and Hiroyuki Shinoda
The University of Tokyo, Japan
- D1A03 10:06-10:09(3')** **A Surface Texture Display for Flexible Virtual Objects**
Lei Lu, Yuru Zhang, Xingwei Guo, and Dangxiao Wang
Beihang University, China
- D1A04 10:09-10:12(3')** **Tactile Perception Effects of Shear Force Feedback and Vibrotactile Feedback on Virtual Texture Representations**
Chia-Wei Lin and Shana Smith
National Taiwan University, Taiwan
- D1A05 10:12-10:15(3')** **Whole Body Haptic Experience Using 2D Communication Wear**
Kohki Serizawa¹, Yuichi Masuda¹, Shun Suzuki¹, Masahiro Fujiwara¹, Akihito Noda², Yasutoshi Makino¹, and Hiroyuki Shinoda¹
¹The University of Tokyo, Japan, ²Nanzan University, Japan
- D1A06 10:15-10:18(3')** **A Haptic Feedback Touch Panel**
Seung Mo Jeong¹, Dongbum Pyo², Ki-Uk Kyung¹, and Sungryul Yun²
¹Korea Advanced Institute of Science and Technology, Korea, ²Electronics and Telecommunications Research Institute, Korea
- D1A07 10:18-10:21(3')** **LinkGlide: A Wearable Haptic Display with Inverted Five-Bar Linkages for Delivering Multi-contact and Multi-Modal Tactile Stimuli**
Miguel Altamirano Cabrera and Dzmitry Tsetserukou
Skolkovo Institute of Science and Technology, Russian Federation
- D1A08 10:21-10:24(3')** **Pneumatic Actuated Haptic Glove to Interact with the Virtual Human**
Aishwari Talhan, Hwangil Kim, Sanjeet Kumar, Ahsan Raza, and Seokhee Jeon
Kyung Hee University, Korea
- D1A09 10:24-10:27(3')** **Wearable Haptic Device that Presents the Haptics Sensation of a Finger Pad to the Forearm and Fingertip**



Taha Moriyama and Hiroyuki Kajimoto
University of Electro-Communications, Japan

- D1A10 10:27-10:30(3')** **Thermal-Radiation-Based Haptic Display - Laser-Emission-Based Radiation System -**
Satoshi Saga
Kumamoto University, Japan
- D1A11 10:30-10:33(3')** **Spatial Haptic Feedback Virtual Reality Controller for Manipulator Teleoperation Using Unreal Engine**
Jae Min Lee, Dong Yeop Kim, and Jung-Hoon Hwang
Korea Electronics Technology Institute, Korea
- D1A12 10:33-10:36(3')** **A Two-DOF Impact Actuator for Haptic Interaction**
Sangyoon Kim¹, Bukun Son¹, Yongheon Lee², Hyunwoong Choi¹, Woochan Lee³, and Jaeyoung Park²
¹Seoul National University, Korea, ²Korea Institute of Science and Technology, Korea, ³Incheon National University, Korea
- D1A13 10:36-10:39(3')** **Conceptual Design of Soft Thin Self-sensing Vibrotactile Actuator**
Siho Ryu, Dong-Soo Choi, and Sang-Youn Kim
Korea University of Technology and Education, Korea
- D1A14 10:39-10:42(3')** **A Novel Haptic Interface for the Simulation of Endovascular Interventions**
Hafiz Ramli¹, M. Iqbal Saripan¹, and Fernando Bello²
¹Universiti Putra Malaysia, Malaysia, ²Imperial College London, UK
- D1A15 10:42-10:45(3')** **Collaborating through Magic Pens: Grounded Forces in large, Overlappable Workspaces**
Soheil Kianzad and Karon E. MacLean
University of British Columbia, Canada
- D1A16 10:45-10:48(3')** **A Ball-type Haptic Interface to Enjoy Sports Games**
Takuya Handa, Makiko Azuma, Toshihiro Shimizu, and Satoru Kondo
NHK (Japan Broadcasting Corporation), Japan
- D1A17 10:48-10:51(3')** **Highly Stretchable Optical Strain Sensor for Human Motion Detection**
Jaeyeon Jeong, Taeyeon Kim, and Ki-Uk Kyung
Korea Advanced Institute of Science and Technology, Korea
- D1A18 10:51-10:54(3')** **Improvement of Walking Motivation by Vibratory Display Powered by an Ankle-Worn Generation Device**
Minatsu Sugimoto, Hiroo Iwata, and Hiroya Igarashi
University of Tsukuba, Japan
- D1A19 10:54-10:57(3')** **Deformation and Friction: 3D Haptic Asset Enhancement in E-Commerce for the Visually Impaired**



Hong Jian Wong¹, Kian Meng Yap¹, Wei Kang Kuan¹, Andrew Jian Yue Chan¹, Samuel John Omamalin¹, Alyssa Yen-Lyn Ding¹, Mei Ling Soh¹, and Ahmad Ismat Bin Abdul Rahim²

¹Sunway University, Malaysia, ²Telekom Research & Development Sdn. Bhd., Malaysia

- D1A20 10:57-11:00(3')** **Controlling Robot Vehicle Using Hand-Gesture with Mid-Air Haptic Feedback**
Tao Morisaki, Masahiro Fujiwara, Yasutoshi Makino, and Hiroyuki Shinoda
The University of Tokyo, Japan
- D1A21 11:00-11:03(3')** **Gravity Ball: A Virtual Trackball with Ultrasonic Haptic Feedback**
Jemin Lee and Seokhee Jeon
Kyung Hee University, Korea
- D1A22 11:03-11:06(3')** **Data-driven Multi-modal Haptic Rendering Combining Force, Tactile, and Thermal Feedback**
Seongwon Cho, Hyejin Choi, Sunghwan Shin, and Seungmoon Choi
Pohang University of Science and Technology, Korea
- D1A23 11:06-11:09(3')** **Painting Skill Transfer Through Haptic Channel**
Ahsan Raza, Muhammad Abdullah, Waseem Hassan, Arsen Abdulali, Aishwari Talhan, and Seokhee Jeon
Kyung Hee University, Korea
- D1A24 11:09-11:12(3')** **A Hand Wearable Device Used in Local Curvature Recovery**
Tao Zeng^{1,2} and Shizhen Huang^{1,2}
¹Xiamen University, China ²Shenzhen Research Institute of Xiamen University, China
- D1A25 11:12-11:15(3')** **Signal Generation for Vibrotactile Display by Generative Adversarial Network**
Shotaro Agatsuma¹, Junya Kurogi², Satoshi Saga², Simona Vasilache¹, and Shin Takahashi¹
¹University of Tsukuba, Japan, ²Kumamoto University, Japan
- D1A26 11:15-11:18(3')** **Shape and Stiffness Sensation Feedback with Electro-tactile and Pseudo-Force Presentation When Grasping A Virtual Object**
Vibol Yem¹, Yasushi Ikei¹, and Hiroyuki Kajimoto²
¹Tokyo Metropolitan University, Japan ²The University of Electro-Communications, Japan
- D1A27 11:18-11:21(3')** **Presenting A Pseudo-Force Sensation Using A Clothespin**
Masahiro Miyakami and Hiroyuki Kajimoto
The University of Electro-Communications, Japan
- D1A28 11:21-11:24(3')** **Presentation of Stepping Up and Down by Pneumatic Balloon Shoes Device**
Masato Kobayashi, Yuki Kon, and Hiroyuki Kajimoto
University of Electro-Communications, Japan



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- D1A29 11:24-11:27(3')** **Analysis and Design of Surgical Instruments for The Development of a Shoulder Joint Arthroscopic Surgery Simulator**
Tae-Keun Kim¹, Geon Won¹, Jong-bum Park¹, Saehan Kim¹, Byung-jin Jung¹, Jung-Hoon Hwang¹, Jaeuk Ahn², Minju Song², and Chang Nho Cho³
¹Korea Electronics Technology Institute, Korea, ²Naviworks, Korea, ³Korea Electrotechnology Research Institute, Korea
- D1A30 11:27-11:30(3')** **Development of Virtual Diving Interface by Flutter Kick Motion**
Masaki Orimoto and Masamichi Sakaguchi
Nagoya Institute of Technology, Japan



		Premier Ballroom (A/B)
Session Title	Live Demo Presentation Session 2 (D1P1~D1P26)	
Session Chair	Andrea Bianchi (KAIST, Korea)	
Date	November 15, 2018 (Thursday)	
Time	14:30~16:00(90')	

- D1P01 14:30-14:35(5')** **[Invited] Stiffness Perception of Virtual Objects Using FOLDAWAY-Touch**
Marco Salerno, Stefano Mintchev, Alexandre Cherpillod, Simone Scaduto, and Jamie Paik
EPFL, Switzerland
- D1P02 14:35-14:40(5')** **[Invited] Smart Bracelets to Represent Direction of Social Touch with Tactile Apparent Motion**
Taku Hachisu and Kenji Suzuki
University of Tsukuba, Japan
- D1P03 14:40-14:45(5')** **[Invited] "HaptiComm", a Haptic Communicator Device for Deafblind Communication**
Basil Duvernoy¹, Sven Topp², and Vincent Hayward³
¹Institut des Systemes Intelligents et de Robotique, France, ²University of Sydney, Australia, ³University of London, UK
- D1P04 14:45-14:50(5')** **[Invited] A Novel Fingertip Tactile Display for Concurrently Displaying Texture and Orientation**
Harsimran Singh¹, Sang-Goo Jeong², Syed Zain², and Jee-Hwan Ryu²
¹Institute of Robotics and Mechatronics in the German Aerospace, Germany, ²Korea University of Technology and Education, Korea
- D1P05 14:50-14:55(5')** **[Invited] Estimation of Racket Grip Vibration from Tennis Video by Using Neural Network**
Kentaro Yoshida, Yuuki Horiuchi, Tomohiro Ichiyama, Seki Inoue, Yasutoshi Makino, and Hiroyuki Shinoda
The University of Tokyo, Japan
- D1P06 14:55-14:58(3')** **Skin Vibration-Based Tactile Tele-Sharing**
Tomohiro Fukuda and Yoshihiro Tanaka
Nagoya Institute of Technology, Japan
- D1P07 14:58-15:01(3')** **An Attempt of Displaying Softness Feeling Using Multi-Electrodes-Based Electrostatic Tactile Display**
Hirobumi Tomita¹, Satoshi Saga², Hiroyuki Kajimoto³, Simona Vasilache¹, and Shin Takahashi¹
¹University of Tsukuba, Japan, ²Kumamoto University, Japan, ³The University of Electro-Communications, Japan
- D1P08 15:01-15:04(3')** **Development of a Teleoperation Precision Grasping System with a Haptic Feedback Sensation on the User's Fingertip**



Aiman Omer¹, Jamal Hamdi², and Atsuo Takanishi¹

¹Waseda University, Japan, ²Umm Al-Qura University, Saudi Arabia

- D1P09 15:04-15:07(3')** **Interactive Virtual Fixture Generation for Shared Teleoperation in Unstructured Environments**
Vitalii Pruks and Jee-Hwan Ryu
Korea University of Technology and Education, Korea
- D1P10 15:07-15:10(3')** **Preliminary Study on Gap Detection Threshold of Textured Surface**
Seitaro Kaneko¹, Kohei Matumori², Naoki Saito², and Hiroyuki Kajimoto¹
¹The University of Electro-Communications, Japan, ²Shiseido Global Innovation Center, Japan
- D1P11 15:10-15:13(3')** **VR Training System of Step Timing for Baseball Batter Using Force Stimulus**
Wataru Sakoda¹, Toshio Tsuji¹, and Yuichi Kurita^{1,2}
¹Hiroshima University, Japan, ²JST PRESTO, Japan
- D1P12 15:13-15:16(3')** **Reducing 3D Vibrations to 1D in Real Time**
Gunhyuk Park and Katherine J. Kuchenbecker
Max Planck Institute for Intelligent Systems, Germany
- D1P13 15:16-15:19(3')** **A Soft Tactile Display Using Dielectric Elastomer Actuator for Fingertip Interaction**
Jung-Hwan Youn, Seung-Mo Jeong, Young-Seok Choi, and Ki-Uk Kyung
Korea Advanced Institute of Science and Technology, Korea
- D1P14 15:19-15:22(3')** **Configuration of Haptic Feedback Based Relief Robot System**
Byung-jin Jung¹, Tae-Keun Kim¹, Geon Won¹, Dong Sub Kim¹, Jung-Hoon Hwang¹ and Jee-Hwan Ryu²
¹Korea Electronics Technology Institute, Korea, ²Korea University of Technology and Education, Korea
- D1P15 15:22-15:25(3')** **TouchPhoto: Enabling Independent Picture-Taking and Understanding of Photos for Visually-Impaired Users**
Yongjae Yoo, Jongho Lim, Hanseul Cho, and Seungmoon Choi
Pohang University of Science and Technology, Korea
- D1P16 15:25-15:28(3')** **Human-Agent Shared Teleoperation: A Case Study Utilizing Haptic Feedback**
Affan Pervez¹, Hiba Latifee², Jee-Hwan Ryu², and Dongheui Lee^{1,3}
¹Technical University of Munich, Germany, ²Korea University of Technology and Education, Korea, ³German Aerospace Center, Germany
- D1P17 15:28-15:31(3')** **Induced Pulling Sensation by Synthesis of Frequency Component for Voice-Coil Type Vibrators**
Takeshi Tanabe, Hiroaki Yano, and Hiroo Iwata
University of Tsukuba, Japan



- D1P18 15:31-15:34(3')** **Hands-on Demonstration of Heterogeneous Haptic Texturing of Mesh Models Based on Image Textures**
Arsen Abdulali, Waseem Hassan, Baek Seung Jin, and Seokhee Jeon
Kyung Hee University, Korea
- D1P19 15:34-15:37(3')** **Real-time Mapping of Sensed Textures into Vibrotactile Signals for Sensory Substitution**
Jaeyoung Park, Woo-seong Choi, and Keehoon Kim
Korea Institute of Science and Technology, Korea
- D1P20 15:37-15:40(3')** **Towards Automatic Synthesis of Motion Effects**
Sangyoon Han¹, Jaebong Lee², and Seungmoon Choi¹
¹Pohang University of Science and Technology, Korea, ²NVIDIA, USA
- D1P21 15:40-15:43(3')** **Development of a Rigidity and Volume Control Module Using a Balloon Filled with Dilatant Fluid**
Saizoh Kojima, Hiroaki Yano, and Hiroo Iwata
University of Tsukuba, Japan
- D1P22 15:43-15:46(3')** **Using Wearable Haptics for Thermal Discrimination in Virtual Reality Scenarios**
Guido Gioioso¹, Maria Pozzi^{1,2}, Mirko Aurilio², Biagio Peccerillo¹, Giovanni Spagnoletti¹, and Domenico Prattichizzo^{1,2}
¹University of Siena, Italy, ²Istituto Italiano di Tecnologia, Italy
- D1P23 15:46-15:49(3')** **A Wearable Hand Haptic Interface to Provide Skin Stretch Feedback to the Dorsum of a Hand**
Hyunwoong Choi¹, Bukun Son¹, Sangyoon Kim¹, Yonghwan Oh², and Jaeyoung Park²
¹Seoul National University, Korea, ²Korea Institute of Science and Technology, Korea
- D1P24 15:49-15:52(3')** **The Thermal Feedback Influencer: Wearable Thermal Display for Enhancing the Experience of Music Listening**
Yuri Ishikawa¹, Anzu Kawazoe², George Chernyshov¹, Shinya Fuji¹, and Masashi Nakatani^{1,3}
¹Keio University, Japan ²The University of California, USA, ³JST PRESTO, Japan
- D1P25 15:52-15:55(3')** **Midair Ultrasound Haptic Display with Large Workspace**
Shun Suzuki, Masahiro Fujiwara, Yasutoshi Makino, and Hiroyuki Shinoda
University of Tokyo, Japan
- D1P26 15:55-15:58(3')** **Haptopus : HMD with Built-In Pressure Sense Presentation Device by Suction Stimulus**
Takayuki Kameoka, Yuki Kon, Takuto Nakamura, and Hiroyuki Kajimoto
The University of Electro-Communications, Japan



		Premier Ballroom (A/B)
Session Title	Live Demo Presentation Session 3 (D2A1~D2A25)	
Session Chair	Kouta Minanizawa (Keio University, Japan)	
Date	November 16, 2018 (Friday)	
Time	10:00~11:30(90')	

- D2A01 10:00-10:03(3')** **Human Rendezvous via Haptic Suggestion**
Gianluca Paolucci^{1,2}, Tommaso Lisini Baldi¹, and Domenico Prattichizzo^{1,2}
¹University of Siena, Italy, ²Istituto Italiano di Tecnologia, Italy
- D2A02 10:03-10:06(3')** **Circular Lateral Modulation in Airborne Ultrasound Tactile Display**
Ryoko Takahashi, Saya Mizutani, Keisuke Hasegawa, Masahiro Fujiwara, and Hiroyuki Shinoda
The University of Tokyo, Japan
- D2A03 10:06-10:09(3')** **2D Braille Display Module Using Rotating Latch Structured Voice Coil Actuator**
Joonyeong Kim, Byung-Kil Han, and Dong-Soo Kwon
Korea Advanced Institute of Science and Technology, Korea
- D2A04 10:09-10:12(3')** **Remotely Displaying Cooling Sensation Using Ultrasound Mist Beam**
Mitsuru Nakajima, Keisuke Hasegawa, Yasutoshi Makino, and Hiroyuki Shinoda
The University of Tokyo, Japan
- D2A05 10:12-10:15(3')** **Efficiency of Haptic Search Facilitated by the Scale Division**
Hirotsugu Kaga and Tetsuya Watanabe
University of Niigata, Japan
- D2A06 10:15-10:18(3')** **Body-Ownership Illusion by Gazing at a Blurred Fake Hand Image**
Hikaru Hasegawa¹, Shogo Okamoto¹, Nader Rajaei¹, Masayuki Hara², Noriaki Kanayama³, Yasuhiro Akiyama¹, and Yoji Yamada¹
¹Nagoya University, Japan, ²Saitama University, Japan, ³National Institute of Advanced Industrial Science and Technology, Japan
- D2A07 10:18-10:21(3')** **Allowable Range of Consistency Between the Visual and Tactile Presentations of a Linear Grating Texture**
Shun Yamaguchi, Seitaro Kaneko, and Hiroyuki Kajimoto
University of Electro-Communications, Japan
- D2A08 10:21-10:24(3')** **Haptic Texture Authoring: A Demonstration**
Waseem Hassan, Arsen Abdulali, and Seokhee Jeon
Kyung Hee University, Korea
- D2A09 10:24-10:27(3')** **SwarmGlove: A Wearable Tactile Device for Navigation of Swarm of Drones in VR Environment**
Luiza Labazanova, Akerke Tleugazy, Evgeny Tsykunov, and Dzmitry Tsetserukou



Skolkovo Institute of Science and Technology, Russian Federation

- D2A10 10:27-10:30(3')** **Tactile Transfer Glove Using Vibration Motor**
Sang Hun Jung^{1,2} and Bummo Ahn^{1,3}
¹Korea Institute of Industrial Technology, Korea, ²Incheon National University, Korea, ³University of Science and Technology, Korea
- D2A11 10:30-10:33(3')** **LiquidVR - Wetness Sensations for Immersive Virtual Reality Experiences**
Kenichiro Shirota¹, Makoto Uju¹, Roshan Peiris¹, and Kouta Minamizawa¹
Keio University Graduate School of Media Design, Japan
- D2A12 10:33-10:36(3')** **Dental Simulator with Increased Z-Width of Haptic Rendering**
Hyojoon Park, Myungsin Kim, and Dongjun Lee
Seoul National University, Korea
- D2A13 10:36-10:39(3')** **Random Forest for Modeling and Rendering of Viscoelastic Deformable Objects**
Hojun Cha, Amit Bhardwaj, Chaeyong Park, and Seungmoon Choi
Pohang University of Science and Technology, Korea
- D2A14 10:39-10:42(3')** **A Teleoperation System for Reproducing Tactile Perception Using Frequency Channel Segregation**
Po-Hung Lin and Shana Smith
National Taiwan University, Taiwan
- D2A15 10:42-10:45(3')** **Extended AirPiano: Visuohaptic Virtual Piano with Multiple Ultrasonic Array Modules**
Inwook Hwang and Sungryul Yun
Electronics and Telecommunications Research Institute, Korea
- D2A16 10:45-10:48(3')** **Rigid-body Collaborative Manipulation Among Remote Users with Wearable Cutaneous Haptic Interfaces**
Myungsin Kim, WonHa Lee, Hyojoon Park, Junghan Kwon, Yong-Lae Park, and Dongjun Lee
Seoul National University, Korea
- D2A17 10:48-10:51(3')** **Hapto-Band: Wristband Haptic Device Conveying Information**
Makiko Azuma, Takuya Handa, Toshihiro Shimizu, and Satoru Kondo
NHK (Japan Broadcasting Corporation), Japan
- D2A18 10:51-10:54(3')** **Enhancing Haptic Experience in a Seat with Two-DoF Buttock Skin Stretch**
Arata Horie, Akito Nomura, Kenjiro Tadakuma, Masashi Konyo, Hikaru Nagano, and Satoshi Tadokoro
Tohoku University, Japan
- D2A19 10:54-10:57(3')** **Spatiotemporal Tactile Display with Tangential Force and Normal Skin Vibration Generated by Shaft End-Effectors**
Takumi Shimada¹, Yo Kamishohara¹, Vibol Yem¹, Tomohiro Amemiya², Yasushi



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Ikei¹, Makoto Sato¹, and Michiteru Kitazaki³

¹Tokyo Metropolitan University, Japan, ²NTT Communications Science Laboratories, Japan, ³Toyohashi University of Technology, Japan

- D2A20 10:57-11:00(3')** **A Large-Scale Fabric-based Tactile Sensor Using Electrical Resistance Tomography**
Hyosang Lee¹, Kyungseo Park², Jung Kim², and Katherine J. Kuchenbecker¹
¹Max Planck Institute for Intelligent Systems, Germany, ² Korea Advanced Institute of Science and Technology, Korea
- D2A21 11:00-11:03(3')** **Haptic Eye: A Contactless Material Classification System**
Tamas Aujeszky, Georgios Korres, and Mohamad Eid
New York University Abu Dhabi, UAE
- D2A22 11:03-11:06(3')** **Seesaw Type Actuator For Haptic Application**
Kahye Song, Jung-Min Park, and Youngsu Cha
Korea Institute of Science and Technology, Korea
- D2A23 11:06-11:09(3')** **Conceptual Design of Soft and Transprent Vibrotactile Actuator**
Dong-Soo Choi and Sang-Youn Kim
Korea University of Technology and Education, Korea
- D2A24 11:09-11:12(3')** **Baby Touch: Quantifying Visual-Haptic Exploratory Behaviors in Infants of Sensory-Motor Development**
Kazuki Sakurada¹, Akari Oka¹, Ritsuko Kiso¹, Leina Shimabukuro¹ Aoba Ueno¹, and Masashi Nakatani^{1,2}
¹Keio University, Japan, ²JST PRESTO, Japan
- D2A25 11:12-11:15(3')** **Exciting but Comfortable: Applying Haptic Feedback to Stabilized Action-Cam Videos**
Daniel Gongora, Hikaru Nagano, Masashi Konyo, and Satoshi Tadokoro
Tohoku University, Japan



		Premier Ballroom (A/B)
Session Title	Video Presentation (D2V1~D2V15)	
Session Chair	Yasutoshi Makino (University of Tokyo, Japan)	
Date	November 16, 2018 (Friday)	
Time	13:30~14:00(30')	

- D2V01 13:30-13:02(2')** **Light Touch Postural Guidance Through a Robotic System**
Karna Potwar¹, Leif Johannsen², Matteo Saveriano^{1,3}, Martin Langer¹, and Dongheui Lee^{1,3}
¹Technical University Munich, Germany, ²University of East Anglia, UK, ³German Aerospace Center, Germany
- D2V02 13:02-13:04(2')** **Time Order Error vs Inter-Stimulus Interval and Stimulus Level During Force Comparison**
Amit Bhardwaj and Seungmoon Choi
Pohang University of Science and Technology, Korea
- D2V03 13:04-13:06(2')** **Design and Control of Vibration Feedback Display Using a Pneumatic Air-Jet**
Junghoon Park, Sangjoon J. Kim, and Jung Kim
Korea Advanced Institute of Science and Technology, Korea
- D2V04 13:06-13:08(2')** **Haptic Assistance Using Neural Networks for Driving Skill Enhancement and Training**
Hojin Lee, Hyoungkyun Kim, and Seungmoon Choi
Pohang University of Science and Technology, Korea
- D2V05 13:08-13:10(2')** **Recognition of Alphabet Objects by Sensing the Object Surface Using a Flexible Ferroelectric Sensor and Classifying the Sensor Signals Using a Neural Network**
Jaehun Kim, Minkook Choi, Taeyang Yang, Jisung Park, Ji-Hyun Kim, Jonghwa Park, Hyunhyub Ko, and Sung-Phil kim
Ulsan National Institute of Science and Technology, Korea
- D2V06 13:10-13:12(2')** **A Graphical Tactile Display for the Visually Impaired**
Yang Jiao, Xiaobo Lu and Yingqing Xu
Tsinghua University, China
- D2V07 13:12-13:14(2')** **Generalizing Pneumatic-Based Augmented Haptics Palpation Training Simulator**
Aishwari Talhan and Seokhee Jeon
Kyung Hee University, Korea
- D2V08 13:14-13:16(2')** **A Novel Shape Deforming Tactile Sensor for Safe Driving**
Sanghun Jung and Yeongjin Kim
Incheon National University, Korea
- D2V09 13:16-13:18(2')** **How We Interact with Virtual Reality Drones?**



Sangyun Shin, Yong-Won Kang, Yong-Guk Kim
Sejong University, Korea

- D2V10 13:18-13:20(2')** **A Movable Humanoid Robot for Presenting Walking Sensation of a Giant**
Shintaro Koiwa, Daisuke Morita, Yuki Enzaki and Hiroo Iwata
University of Tsukuba, Japan
- D2V11 13:20-13:22(2')** **360° VR Fishing with Multimodal Interaction**
Byung-Wook Park, Do-Gyun Kim, and Soo-Mi Choi
Sejong University, Korea
- D2V12 13:22-13:24(2')** **Increased Immersion Through Interacting with VR Players**
Min-soo Choi and Jun Park
Hongik University, Korea
- D2V13 13:24-13:26(2')** **Rendering Virtual Window for Mobile Augmented Reality**
Jun Sol Oh and Jong Weon Lee
Sejong University, Korea
- D2V14 13:26-13:28(2')** **Dismantling Simulation of Nuclear Power Plant Structures Based on Virtual Reality**
Myoung-Bae Seo
Korea Institute of Civil Engineering and Building Technology, Korea
- D2V15 13:28-13:30(2')** **A Conceptual Design of a Haptic Glove with Soft Vibrotactile Actuators**
Won-Hyeong Park¹, Seokhee Jeon² and Sang-Youn Kim¹
¹Korea University of Technology and Education, Korea, ²Kyung Hee University, Korea