# Augmented Humans

16-17 March 2020 | Kaiserslautern, Germany
augmented-humans.org

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## << Program Overview >>

### Tuesday March 17th

| Time | Session |
|------|---------|
| 9.10 | Keynote: Kasper Hornbæk |
| 10.20 | Break |
| 11.00 | Session 4: Sports and Gestures |
| 12.10 | Break |
| 13.30 | Session 5: Cognition |
| 14.00 | Break |
| 15.20 | Session 6: HCI Futures, from Skin to Cells |
| 16.30 | Break |
| 16.50 | Keynote: Enkelejda Kasneci |
| 18.15 | Closing & Award Ceremony |

## << Program Overview >>

### Monday March 16th

| Time | Session |
|------|---------|
| 9.10 | Opening |
| 9.40 | Keynote: Stelarc |
| 10.40 | Break |
| 11.00 | Session 1: Perception I - Light |
| 12.20 | Break |
| 13.40 | Session 2: Perception II - Vibration |
| 15.10 | Break |
| 15.30 | Poster & Demo Showcase |
| 16.00 | Session 3: Moving and Experiencing the Body |

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## << Useful Information >>

### Transport | Bus & Taxi

🚗 Taxizentrale Kaiserslautern
+49 (0)631 366777

🚌 There are busses (SWK 115) departing from "Fraunhofer Zentrum" towards Kaiserslautern Central Station every 15 minutes. Last (direct) one is at 8.19pm.

### Electronics | Hardware | Missing Adapters

🔌 Mediamarkt
Hohenecker Str. 26, 67663 Kaiserslautern
10am - 8pm

### Medical Supplies

🚑 Universitäts-Apotheke (drug store)
Davenportplatz 13 (10 min walk from DFKI)
8.30am - 6.30pm

## << Materials >>

### Remote Sessions

Please check the program on the conference web-page for access to the remote sessions and discussions. You can find the password below.

### Papers | Proceedings

The proceedings are available (in pdf format) here:

https://cloud.dfki.de/owncloud/index.php/s/D5FiTLk2mmGDafi

### Posters

Posters are available here:

https://cloud.dfki.de/owncloud/index.php/s/rWWrcJjLCYCaNbg

🔑 Remote Access Code:

## DiscussionAHs2020

## Main Building Ground Floor

"Zuse 1" 0.01
&
"Zuse 2" 0.02

Talks

Access to the parking garage

"Foyer" 0.61
Lunch & Coffee

0.62

0.08

0.06

## << Keynotes >>

### Stelarc

Contemporary Chimeras: Creepy, Uncanny and Contestable Bodies

Photo taken by Peter Cheng

### Kasper Hornbæk

Research Problems in Body-based User Interfaces

### Enkelejda Kasneci

It's in Your Eyes - How Eye Tracking will Shape our Future

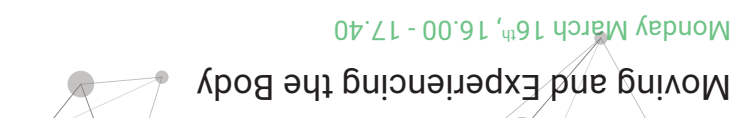## Perception I - Light
Monday March 16th, 11.00 - 12.20

- Eye-based Interaction Using Embedded Optical Sensors on an Eyewear Device for Facial Expression Recognition
Katsutoshi Masai, Kai Kunze and Maki Sugimoto

- Altering the Speed of Reality? Exploring Visual Slow-Motion to Amplify Human Perception using Augmented Reality
Pascal Knierim, Thomas Kosch, Gabrielle LaBorwit and Albrecht Schmidt

- DehazeGlasses: Optical Dehazing with an Occlusion Capable See-Through Display
Yuichi Hiroi, Takumi Kaminokado, Atsushi Mori and Yuta Itoh

- Vision Extension For Ball Camera by Using Image Completion
Tsubasa Kitayama, Shio Miyafuji and Hideki Koike

- OmniView: An Exploratory Study of 360 Degree Vision using Dynamic Distortion based on Direction-of-Interest
Feng Liang, Kevin Stevens, Kai Kunze, Holger Baldauf and Yun Suen Pai

### Legend
- full paper, 15+5 min presentation slot, including Q&A
- short paper, 7+3 min presentation slot, including Q&A

## Perception II - Vibration
Monday March 16th, 13.40 - 15.10

- The Lateral Line: Augmenting Spatiotemporal Perception with a Tactile Interface
Matti Krüger, Christiane B. Wiebel-Herboth and Heiko Wersing

- HapticPointer: A Neck-worn Device that Presents Direction by Vibrotactile Feedback for Remote Collaboration Tasks
Akira Matsuda, Kazunori Nozawa, Kazuki Takata, Atsushi Izumihara and Jun Rekimoto

- GenVibe: Exploration of Interactive Generation of Personal Vibrotactile Patterns
Erik Pescara, Florian Dreschner, Karola Marky and Michael Beigl

- Manipulatable Auditory Perception in Wearable Computing
Hiroki Watanabe and Tsutomu Terada

- Novel Input and Output opportunities using an Implanted Magnet
Paul Strohmeier and Jess McIntosh

## Moving and Experiencing the Body
Monday March 16th, 16.00 - 17.40

- Sensor Glove Implemented With Artificial Muscle Set For Hand Rehabilitation
Biyuan Wang, Nobuhiro Takahashi and Hideki Koike

- Accelerating Skill Acquisition of Two-Handed Drumming using Pneumatic Artificial Muscles
Takashi Goto, Swagata Das, Pedro Lopes, Yuichi Kurita and Kai Kunze

- PoseAsQuery: Full-Body Interface for Repeated Observation of a Person in a Video with Ambiguous Pose Indexes and Performed Poses
Natsuki Hamanishi and Jun Rekimoto

- Investigation of Effective Parts for Rotation and Translation of the Legs Using Hanger Reflex
Hanamichi Sanada, Masato Kobayashi, Kon Yuki and Hiroyuki Kajimoto

- Go-Through: Disabling Collision to Access Obstructed Paths and Open Occluded Views in Social VR
Jens Reinhardt and Katrin Wolf

- Remote Treatment System of Phantom Limb Pain by Displaying Body Movement in Shared VR Space
Kenta Saito, Atsushi Okada, Yu Matsumura and Jun Rekimoto

## Sports and Gestures
Tuesday March 17th, 10.40 - 12.10

- KissGlass: Greeting Gesture Recognition using Smart Glasses
Richard Li, Juyoung Lee, Thad Starner and Woontack Woo

- ExemPoser: Predicting Poses of Experts as Examples for Beginners in Climbing Using a Neural Network
Katsuhito Sasaki, Keisuke Shiro and Jun Rekimoto

- waveSense: Low Power Voxel-tracking Technique for Resource Limited Devices
Anusha Withana, Tharindu Kaluarachchi, Chanaka Singhabahu, Shanaka Ransiri and Suranga Nanayakkara

- The Jungle Warm-Up Run: Augmenting Athletes with Coach-Guided Dynamic Game Elements
Frederik Wiehr, Marko Vujic, Antonio Krueger and Florian Daiber

- Archery shots visualization by clustering and comparing from angular velocities of bows
Midori Kawaguchi, Mitake Hironori and Shoich Hasegawa

## << Session 5 >>

## Cognition
Tuesday March 17th, 13.30 - 14.40

- Design of Altered Cognition with Reshaped Bodies
Kenichiro Shirota, Makoto Uju, Yurike Chandra, Elaine Czech, Roshan L. Peiris and Kouta Minamizawa

- Wearable Reasoner: Towards Enhanced Human Rationality Through A Wearable Device With an Explainable AI Assistant
Valdemar Danry, Pat Pataranutaporn, Yaoli Mao and Pattie Maes

- SpotlessMind - A Design Probe for Eliciting Attitudes towards Sharing Neurofeedback
Passant El.Agroudy, Xiyue Wang, Evgeny Stemasov, Teresa Hirzle, Svetlana Shishkovets, Siddharth Mehrotra and Albrecht Schmidt

- Facilitating Experiential Knowledge Sharing through Situated Conversations
Ryo Fujikura and Yasuyuki Sumi

## << Session 6 >>

## HCI Futures, from Skin to Cells
Tuesday March 17th, 15.00 - 16.20

- VersaTouch: A Versatile Plug-and-Play System that EnablesTouch Interactions on Everyday Passive Surfaces
Yilei Shi, Haimo Zhang, Jiashuo Cao and Suranga Nanayakkara

- WristLens: Enabling Single-Handed Surface Gesture Interaction for Wrist-Worn Devices using Optical Motion Sensor
Hui-Shyong Yeo, Juyoung Lee, Andrea Bianchi, Alejandro Samboy, Hideki Koike, Woontack Woo and Aaron Quigley

- PDMSkin: On-Skin Gestures with Printable Ultra-Stretchable Soft Electronic Second Skin
Tobias Röddinger, Michael Beigl, Daniel Wolffram, Matthias Budde and Hongye Sun

- Sketching On-Body Interactions using Piezo-Resistive Kinesiology Tape
Paul Strohmeier, Narges Pourjafarian, Marion Koelle, Cedric Honnet, Bruno Fruchard and Jürgen Steimle

- Living Bits: Opportunities and Challenges for Integrating Living Microorganisms in Human-Computer Interaction
Pat Pataranutaporn, Angela Vujic, Misha Sra, David Kong and Pattie Maes

## << Demos & Posters >>

**EgoSpace: Augmenting Egocentric Space by Wearable Projector**
Yuya Adachi, Haoran Xie, Takuma Torii, Haopeng Zhang and Ryo Sagisaka

**Towards a Wearable for Deep Water Blackout Prevention**
Frederik Wiehr, Andreas Höh and Antonio Krueger

**High-speed Projection Method of Swing Plane for Golf Training**
Tomohiro Sueishi, Chikara Miyaji, Masataka Narumiya, Yuji Yamakawa and Masatoshi Ishikawa

**GymSoles++: Using Smart Wearbales to Improve Body Posture when Performing Squats and Dead-Lifts**
Don Samitha Elvitigala, Denys J.C. Matthies, Chamod Weerasinghe and Suranga Nanayakkara

**e2-MaskZ: A Mask-type Display with Facial Expression Identification using Embedded Photo Reflective Sensors**
Akino Umezawa, Yoshinari Takegawa, Katsuhiro Suzuki, Katsutoshi Masai, Yuta Sugiura, Maki Sugimoto, Yutaka Tokuda, Diego Martinez Plasencia, Sriram Subramanian, Masafumi Takahashi, Hiroaki Taka and Keiji Hirata

**Understanding Face Gestures with a User-Centered Approach Using Personal Computer Applications as an Example**
Yenchin Lai, Benjamin Tag, Kai Kunze and Rainer Malaka

**Augmented Workplace: Human-Sensor Interaction for Improving the Work Environment**
Yutaka Arakawa

**Conformal Wearable Devices for Expressive On-Skin Interaction**
Aditya Shekhar Nittala, Arshad Khan and Jürgen Steimle

TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

DFKI German Research Center for Artificial Intelligence

HUMANE AI