

External Awards

Achievement Award

Winner: Naonori Ueda, NTT Communication Science Laboratories

Date: June 2, 2016

Organization: The Institute of Electronics, Information and Communication Engineers (IEICE)

For his pioneering research on statistical learning theory.

Best Presentation at JPA Annual Convention

Winner: Ryunosuke Sudo, Kyushu University; Daisuke Satoh, NTT Network Technology Laboratories; Yuji Takano, Doshisha University; and Takemi Mochida, NTT Communication Science Laboratories

Date: June 16, 2016

Organization: The Japanese Psychological Association (JPA)

For “Examination of the Measures and Subjective Stress of Calling Party during Disaster.”

Published as: R. Sudo, D. Satoh, Y. Takano, and T. Mochida, “Examination of the Measures and Subjective Stress of Calling Party during Disaster,” Proc. of the 79th JPA Annual Convention, Nagoya City, Japan, Sept. 2015.

Best Paper Award 2015

Winner: Hiroaki Shiokawa, University of Tsukuba; Yasuhiro Fujiwara and Yasuhiro Iida, NTT Software Innovation Center; Makoto Onizuka, Osaka University

Date: June 18, 2016

Organization: The Database Society of Japan (DBSJ)

For “Density-based Clustering for Dynamic Graphs.”

Published as: H. Shiokawa, Y. Fujiwara, Y. Iida, and M. Onizuka, “Density-based Clustering for Dynamic Graphs,” DBSJ Japanese Journal, Vol. 14-J, 4, Mar. 2016.

TTC Chairman's Prize

Winner: Akira Takahashi, NTT Network Technology Laboratories

Date: June 21, 2016

Organization: Telecommunication Technology Committee (TTC)

For his contribution to the standardization of quality of service and quality of experience concerning audiovisual communication services and IP networks.

JSAI Best Paper Award 2015

Winner: Makoto Nakatsuji, NTT Service Evolution Laboratories; Yasuhiro Fujiwara, NTT Software Innovation Center; Hiroyuki Toda and Hiroshi Sawada, NTT Service Evolution Laboratories; Jin Zheng and James Hendler, Rensselaer Polytechnic Institute

Date: June 24, 2016

Organization: The Japanese Society for Artificial Intelligence (JSAI)

For “Tensor Factorization that Utilizes Semantics behind Objects.”

Published as: M. Nakatsuji, Y. Fujiwara, H. Toda, H. Sawada, J. Zheng, and J. Hendler, “Tensor Factorization that Utilizes Semantics behind Objects,” Trans. JSAI, Vol. 30, No. 3, pp. 510–525, May 2015 (in Japanese).

JSAI Incentive Award 2015

Winner: Koh Takeuchi, NTT Communication Science Laboratories;

Yoshinobu Kawahara, ISIR, Osaka University; and Tomoharu Iwata, NTT Communication Science Laboratories

Date: June 24, 2016

Organization: JSAI Special Interest Group on Fundamental Problems in Artificial Intelligence (SIG-FPAI)

For “Structured Regularizer for Spatio-temporal Matrix Completion.”

Published as: K. Takeuchi, Y. Kawahara, and T. Iwata, “Structured Regularizer for Spatio-temporal Matrix Completion,” Proc. of the 100th SIG-FPAI, pp. 47–52, Kumamoto, Japan, Mar. 2016 (in Japanese).

The Meritorious Award on Radio

Winner: Yoshitaka Shimizu, NTT Network Innovation Laboratories; Nei Kato, Tohoku University; Kouji Eguchi, Fujitsu Limited; and Shinichi Yamaguchi, NTT Communications

Date: June 27, 2016

Organization: Association of Radio Industries and Businesses (ARIB)

For development of the movable and deployable ICT resource unit (MDRU).

OECC/PS 2016 Best Paper Award

Winner: Kazushige Yonenaga, Kengo Horikoshi, Seiji Okamoto, Mitsuteru Yoshida, Yutaka Miyamoto, and Masahito Tomizawa, NTT Network Innovation Laboratories; Takeshi Okamoto, Hidemi Noguchi, Jun-ichi Abe, and Junichiro Matsui, NEC Corporation; Hisao Nakashima, Yuichi Akiyama, Takeshi Hoshida, and Hiroshi Onaka, Fujitsu Limited; Kenya Sugihara, Soichiro Kametani, Kazuo Kubo, and Takashi Sugihara, Mitsubishi Electric Corporation

Date: July 6, 2016

Organization: The 21st Optoelectronics and Communications Conference/International Conference on Photonics in Switching 2016 (OECC/PS 2016) organizing committee

For “Field Demonstration of Modulation Format Adaptation Based on Pilot-aided OSNR Estimation Using 400Gbps/ch Real-time DSP.”

Published as: K. Yonenaga, K. Horikoshi, S. Okamoto, M. Yoshida, Y. Miyamoto, M. Tomizawa, T. Okamoto, H. Noguchi, J. Abe, J. Matsui, H. Nakashima, Y. Akiyama, T. Hoshida, H. Onaka, K. Sugihara, S. Kametani, K. Kubo, and T. Sugihara, “Field Demonstration of Modulation Format Adaptation Based on Pilot-aided OSNR Estimation Using 400Gbps/ch Real-time DSP,” OECC/PS 2016, TuB2-2, Niigata, Japan, July 2016.

OECC/PS 2016 Best Paper Award

Winner: Kengo Nozaki, Shinji Matsuo, Takuro Fujii, Koji Takeda, Masaaki Ono, Abdul Shakoor, Eiichi Kuramochi, and Masaya Notomi, NTT Basic Research Laboratories

Date: July 6, 2016

Organization: OECC/PS 2016 organizing committee

For “Sub-fF-capacitance Photonic-crystal Photodetector towards fJ/bit on-chip Receiver.”

Published as: K. Nozaki, S. Matsuo, T. Fujii, K. Takeda, M. Ono, A. Shakoor, E. Kuramochi, and M. Notomi, “Sub-fF-capacitance Photonic-crystal Photodetector towards fJ/bit on-chip Receiver,” OECC/PS 2016, TuE1-3, Niigata, Japan, July 2016.

OECC/PS 2016 Best Paper Award

Winner: Wataru Kobayashi, NTT Device Technology Laboratories; Naoki Fujiwara, NTT Device Innovation Center; Takahiko Shindo, NTT Device Technology Laboratories; Shigeru Kanazawa, NTT Device Innovation Center; Koichi Hasebe, Hiroyuki Ishii, and Miki-taka Itoh, NTT Device Technology Laboratories

Date: July 6, 2016

Organization: OECC/PS 2016 organizing committee

For “Ultra Low Power Consumption Operation of SOA Assisted Extended Reach EADFB Laser (AXEL).”

Published as: W. Kobayashi, N. Fujiwara, T. Shindo, S. Kanazawa, K. Hasebe, H. Ishii, and Mikitaka Itoh, “Ultra Low Power Consumption Operation of SOA Assisted Extended Reach EADFB Laser (AXEL),” OECC/PS 2016, WD3-2, Niigata, Japan, July 2016.

Technical Committee on Communication Quality Research Encouragement Award

Winner: Rie Tagyo, NTT Network Technology Laboratories; Hideaki Kinsho, Osaka University; Daisuke Ikegami, NTT Network Technology Laboratories; Takahiro Matsuda, Osaka University; Akira Takahashi, NTT Network Technology Laboratories; Tetsuya Takine, Osaka University

Date: July 26, 2016

Organization: Technical Committee on Communication Quality, IEICE Communications Society

For “Inference of QoS Degradation Based on Spatial Dependence in Mobile Networks.”

Published as: R. Tagyo, H. Kinsho, D. Ikegami, T. Matsuda, A. Takahashi, and T. Takine, “Inference of QoS Degradation Based on Spatial Dependence in Mobile Networks,” IEICE Tech. Rep., Vol. 116, No. 10, CQ2016-1, pp. 1–6, Apr. 2016.

Papers Published in Technical Journals and Conference Proceedings

Five Senses Theater: A Multisensory Display for the Bodily Ultra-reality

Y. Ikei, K. Hirota, T. Amemiya, and M. Kitazaki

Emotional Engineering, Vol. 4, pp. 145–164, June 2016.

The present paper describes a multisensory virtual reality (VR) system built for the exploration of the bodily ultra-reality.

Development of Embodied Sense of Self Scale (ESSS): Exploring Everyday Experiences Induced by Anomalous Self-representation

T. Asai, N. Kanayama, S. Imaizumi, S. Koyama, and S. Kaganoi
Frontiers in Psychology, Vol. 7, 1005, July 2016.

The scientific exploration of the self has progressed, with much attention focused on the Embodied Sense of Self (ESS). Empirical studies have suggested the mechanisms for self-representation. On the other hand, less attention has been paid to the subjectivity itself of the self. With reference to previous studies, the current study collected items that reflect the ESS and statistically extracted three factors for it: Ownership, Agency, and Narrative. The developed questionnaire [Embodied Sense of Self Scale (ESSS)] showed good enough validity and reliability for practical use. Furthermore, ESSS discriminated schizophrenia, a disorder of the ESS, from controls. We discuss the factorial structure of ESS and the relationship among factors on the basis of the current results.

Perceived Topographic Surface Modulated by Pitch Rotation of Motorized Motion Chair

T. Amemiya, K. Hirota, and Y. Ikei

Transactions of the Virtual Reality Society of Japan, Vol. 21, No. 2, pp. 359–362, July 2016 (in Japanese).

A great number of driving simulators with visual presentation have been developed. But little is known about the perception of a topographic surface induced by visual and vestibular stimuli when a user runs over a bump or hole. In this paper, we conducted a user study to assess how congruence or incongruence of visual and vestibular shape cues influence the perception of a topographic surface. Experimental result show that the vestibular shape cue contributed to making the shape perception more than the visual one. The result of a linear regression analysis showed that performance with visual unimodal and vestibular unimodal cues could account for that with visuo-vestibular multimodal cues.

Event-based Transient Visual and Tactile Feedback Produces a Sensation of Impact

T. Amemiya

Transactions of the Virtual Reality Society of Japan, Vol. 21, No. 2, pp. 381–384, July 2016 (in Japanese).

This paper reports a design of a new haptic feedback technique for desktop applications which creates a sensation of impact with modulated transient visual and tactile feedback. A transient vibration or impulse tactile stimulus was presented when a computer mouse cursor made contact with a virtual object on the screen, while changing

the visual motion of the cursor. Two experiments were performed to compare the effect of stimulus combination and find an effective time lag of visuotactile stimuli to generate a clear sensation of impact. Experimental evaluations showed that a sensation of impact was successfully induced by tactile stimuli of either single pulse or damped oscillation, while a strong sensation of vibration was not induced, and the sensation of impact was induced when tactile stimuli were presented 30–120 ms after the cursor made contact.

On Maximizing a Monotone k -submodular Function Subject to a Matroid Constraint

S. Sakaue

arXiv:1607.07957, July 2016.

In this paper, we prove that a greedy algorithm outputs a $1/2$ -approximate solution for monotone k -submodular maximization with a matroid constraint. The algorithm runs in $O(M|E|(MO + kEO))$ time, where M is the size of an optimal solution, $|E|$ is the size of the ground set, and MO and EO represent the time for the membership oracle of the matroid and the evaluation oracle of the k -submodular

function, respectively.

Topographic Surface Perception Modulated by Pitch Rotation of Motion Chair

T. Amemiya, K. Hirota, and Y. Ikei

Proc. of HCI International 2016, pp. 483–490, Toronto, Canada, July 2016.

The paper investigates multimodal perception of a topographic surface induced by visual and vestibular stimuli. Using an experimental system consisting of a motion chair and optic flow on a wide screen, we conducted a user study to assess how congruence or incongruence of visual and vestibular shape cues influence the perception of a topographic surface. Experimental results show that the vestibular shape cue contributed to making the shape perception larger than the visual one. Finally, the results of a linear regression analysis showed that performance with visual unimodal and vestibular unimodal cues could account for that with visuo-vestibular multimodal cues.
