External Awards

Maejima Hisoka Award
Winner: Makoto Yaita, NTT Device Technology Laboratories; Yasuhiro Nakasha, Fujitsu Laboratories; Akifumi Kasamatsu, National Institute of Information and Communications Technology
Date: April 10, 2019
Organization: Tsushinbunka Association

For research on terahertz wireless communications.

PKC Test-of-Time Award
Winner: Eiichiro Fujisaki, Japan Advanced Institute of Science and Technology; and Tatsuaki Okamoto, NTT Secure Platform Laboratories
Date: April 12, 2019
Organization: International Association for Cryptologic Research (IACR)

For "How to Enhance the Security of Public-key Encryption at Minimum Cost."
Published as: E. Fujisaki and T. Okamoto, "How to Enhance the Security of Public-key Encryption at Minimum Cost," Proc. of the 2nd International Workshop on Practice and Theory in Public Key Cryptography (PKC 1999), pp. 53–68, Kamakura, Japan, Mar. 1999.

PKC Test-of-Time Award
Winner: Tatsuaki Okamoto, NTT Secure Platform Laboratories; and David Pointcheval, The French National Centre for Scientific Research
Date: April 12, 2019
Organization: IACR

For "The Gap-problems: A New Class of Problems for the Security of Cryptographic Schemes."
Published as: T. Okamoto and D. Pointcheval, "The Gap-problems: A New Class of Problems for the Security of Cryptographic Schemes," Proc. of the 4th International Workshop on Practice and Theory in Public Key Cryptography (PKC 2001), pp. 104–118, Cheju Island, Korea, Feb. 2001.

The Young Scientists' Prize, the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology
Winner: Kengo Nozaki, NTT Basic Research Laboratories
Date: April 17, 2019
Organization: Ministry of Education, Culture, Sports, Science and Technology

For his research on extremely power-saving optical devices based on semiconductor photonic crystal.

Featured Poster Award
Winner: Shuhei Yoshida, Yuta Ukon, NTT Device Innovation Center; Koji Yamazaki, NTT Device Innovation Center (currently, NTT Advanced Technology Corporation); Koyo Nitta, NTT Device Innovation Center
Date: April 19, 2019
Organization: The 22nd IEEE Symposium on Low-Power and High-Speed Chips and Systems (COOL Chips 22)

For "Design Optimization Methodology for FPGA-based Accelerator with Multiple Users."
Published as: S. Yoshida, Y. Ukon, K. Yamazaki, and K. Nitta, "Design Optimization Methodology for FPGA-based Accelerator with Multiple Users," Proc. of COOL Chips 22, Yokohama, Japan, Apr. 2019.

Best Presentation Award
Winner: Toshimori Honjo, NTT Basic Research Laboratories
Date: May 9, 2019
Organization: The Institute of Electronics, Information and Communication Engineers (IEICE) Technical Committee on Reconfigurable Systems

For "Design and Implementation of FPGA Measurement Feedback System in Coherent Ising Machine."
Published as: T. Honjo, T. Inagaki, K. Inaba, T. Ikuta, and H. Takesue, "Design and Implementation of FPGA Measurement Feedback System in Coherent Ising Machine," IEICE Tech. Rep., Vol. 118, No. 432, RECONF2018-52, pp. 37–42, 2019.

Distinguished Service Award
Winner: Kei Harada, NTT Network Innovation Laboratories
Date: June 18, 2019 (awards ceremony)
Organization: Telecommunication Technology Committee (TTC)

For her contribution to standardization efforts concerning oneM2M specifications.

Distinguished Service Award
Winner: Hidenori Iwashita, NTT Network Technology Laboratories
Date: June 18, 2019 (awards ceremony)
Organization: TTC

For his contribution to standardization efforts concerning soft errors that affect telecommunication equipment.

Papers Published in Technical Journals and Conference Proceedings

Flat Panel Visually-equivalent Light Field 3D Display

M. Date, D. Ochi, and H. Kimata

The Journal of the Institute of Image Electronics Engineers of Japan, Vol. 48, No. 2, pp. 264–272, April 2019.

A novel autostereoscopic flat-panel three-dimensional (3D) display that can display viewpoint images directly and reproduce smooth horizontal motion parallax using a small number of directional images is introduced. Using the human perception characteristics of doubled images, we interpolate directional images and generate visually equivalent rays using optical linear blending in the display. Our previous proposal required a huge apparatus and had low image quality. Since this new display only requires a barrier, whose spacing is almost the same as the pixel width, to be added to a regular horizontal RGB (red-green-blue) stripe type 2D LCD (liquid crystal display), it yields thin flat panel displays. The lens-less optical configuration enables high image quality because it is intrinsically free from distortion and blur. Moreover we sorted out phenomena from the standpoint of spatial frequency and showed that perception can be explained optically only by assuming the cutoff frequency of the visual system.

Table Top Visually Equivalent Light Field 3D Display Using 15.6-inch 4K LCD Panel

M. Date, Y. Tanaka, M. Isogai, S. Shimizu, and H. Kimata

Proc. of SID Display Week 2019, pp. 791–794, San Jose, CA, USA, May 2019.

A highly realistic table-top type light field three-dimensional (3D) display that offers horizontal parallax is proposed. With a 4K LCD (liquid crystal display) and parallax barrier, rays are interpolated directionally, and high resolution and smooth motion parallax are achieved. Since this interpolation works as anti-aliasing itself, small characters can be displayed stably in 3D space.
