

**Joint International Conferences of
11th International Science, Social Sciences,
Engineering and Energy Conference (I-SEEC 2022)
6th International Conference on Technology and
Social Science (ICTSS 2022)**

[I-SEEC & ICTSS 2022 \(e-jikei.org\)](http://e-jikei.org)

Date: Dec. 28, 2022 (Wed)

IPS04 program

[Invited Papers Session 04](#)

[Title] [Analog/Power Supply Circuits and Their Related Technology](#)

[Abstract] This session discusses analog/power supply circuits and their related technology, which are very important for Internet-of-Things (IoT) and green environment. It covers wide range from fundamental theory to industry applications, and also from basics to the state-of-the art, as well as their education.

[Organizer]

Haruo Kobayashi

Professor, Gunma University (Japan)

Session Chair: Kentaroh Katoh

10:00-10:25

[1] (Keynote) Haruo Kobayashi, Kentaroh Katoh, Shuhei Yamamoto, Yujie Zhao, Shogo Katayama Jianglin Wei, Yonglun Yan, Dan Yao, Xueyan Bai, Anna Kuwana, "Waveform Sampling Technologies for Next Generation Communication and IoT Systems"

10:25-10:45

[2](Invited) Kentaroh Katoh, Shuhei Yamamoto, Zheming Zhao, Yujie Zhao, Shogo Katayama, Anna Kuwana, Keno Sato, Takashi Ishida, Toshiyuki Okamoto, Tamotsu Ichikawa, Takayuki Nakatani, Kazumi Hatayama, Haruo Kobayashi, "A Physical Unclonable Function Using Time-to-Digital Converter"

10:45-11:00

[3] (Student Paper) Shuhei Yamamoto, Kentaroh Katoh, Zheming Zhao, Yujie Zhao, Shogo Katayama, Anna Kuwana, Keno Sato, Takashi Ishida, Toshiyuki Okamoto, Tamotsu Ichikawa, Takayuki Nakatani, Kazumi Hatayama, Haruo Kobayashi, "Time-to-Digital Converter Linearity Calibration with Metallic Ratio Sampling"

11:00-11:15

[4] (Student Paper) Zhang Zheming, Anna Kuwana, Shogo Katayama, Shuhei Yamamoto, Kentaroh Katoh, Keno Sato, Takashi Ishida, Toshiyuki Okamoto, Tamotsu Ichikawa, Takayuki Nakatani, Kazumi Hatayama, Haruo Kobayashi, "Effect of the Delay Elements Variation on Time-to-Digital Converter Linearity"

11:15-11:30

[5] (Student Paper) Kakeru Ootomo, Masashi Chiba, Shogo Katayama, Kanji Yoshihiro, Takato Ooide, Anna Kuwana, Haruo Kobayashi, Hiroshi Tanimoto, "Conjecture on Spatial-Temporal Response Relationship for Spatially Shift-Variant Networks with Positive and Negative Resistors"

11:30-11:50

[6](Invited) Kenji Yamaguchi, Anna Kuwana and Katsuhisa Kagami, "Development of ICT-based learning materials for ICT literacy"

11:50-13:20

Lunch Break

Session Chair: Jun-ichi Matsuda

13:20-13:45

[7] (Keynote) Mohd Abdur Rashid

"Evolution of InN Quantum Dot and Its Applications in Optoelectronic Devices"

13:45-14:05

[8] (Invited) You Yin, Takao Fujiwara, Koji Niiyama and Shunsuke Yahagi

"Undoped and Doped Zn₅Sb₃Te Chalcogenides for Use in Phase-Change Device with High Thermal Stability"

14:05-14:20

[9] (Student Paper) Shunsuke Yahagi, You Yin,

"N-Doped GeTe for Highly Reliable Phase-Change Device"

14:20-14:40

[10] (Invited) Kazuyoshi Kubo, Takafumi Kubota, Haruo Kobayashi,

"A new method to apply the synthetic exponential technique to infection model AID with COVID-19"

14:40-14:55

[11] (Student Paper) Siwei Li, Anna Kuwana, Yuki Yanadori, Shogo Katayama, Keno Sato, Takashi Ishida, Toshiyuki Okamoto, Tamotsu Ichikawa, Takayuki Nakatani, Kazumi Hatayama, Haruo Kobayashi,

"Signal Estimation by Prony's Method for Application to ADC Testing"

14:55-15:10

[12] (Student Paper) Kaiki Okabe, Shogo Katayama, Anna Kuwana, Haruo Kobayashi,

"High-Resolution Unary DAC Unit Cell Sorting Algorithms for Linearity Improvement with Measured Unit Cell Values"