

5th International Conference on Technology and Social Science (ICTSS 2021)

General Chair: Prof. Yusaku Fujii (Gunma U) [ICTSS2021 \(e-jikei.org\)](http://ICTSS2021(e-jikei.org))

IPS02 セッション聴講を無料ご招待させていただきます。

ご希望の方は下記からお申し込みください。

<https://forms.gle/poXAbq7hzwcKrUA16>

開催前日までに **Zoom URL** をお知らせします。

Invited Papers Session (IPS) 02

[Organizer] Prof. Haruo Kobayashi, (Gunma U)

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[Title] **Analog/Mixed-Signal/Power Supply Circuits and Their Related Technology**

[Abstract]

This session discusses analog/mixed-signal/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.

IPS02 Schedule & Program

Date: Dec. 9, 2021

10am - 12am

Session Chair: Jun-ichi Matsuda (Gunma U)

Keynote (30 min) Haruo Kobayashi, Xueyan Bai, Yujie Zhao, Shuhei Yamamoto, Dan Yao, Manato Hirai, Jianglin Wei, Shogo Katayama, Anna Kuwana (Gunma U)

Smart Mathematics Leads to Sophisticated Analog/Mixed-Signal Circuit Design

Invited Paper (20min) :You Yin, Koji Niiyama, Wataru Matsuhashi, Takao Fujiwara (Gunma U)

Doped Sb₂Te₃ Phase-Change Materials for High Performance Artificial Synaptic Device

Invited Paper (20min):

Nobukazu Tsukiji (NIT Gunma College)

Loop Gain Evaluation Using Output Impedances in DC-DC Boost Converter

Student Paper (15min): Hao Yang DU, Jun-ichi Matsuda, Anna Kuwana, Haruo Kobayashi (Gunma U)

Analysis of Switching Characteristics of Dual RESURF 40 V N-LDMOS Transistor with Grounded Field Plate

Invited Paper (20min): Kazuyoshi Kubo (NIT Oyama College)

On the incredible match between the number of people infected with COVID-19 and a simple engineering model AID

1pm - 3pm

Session Chair: Yuji Gendai (THine Electronics)

Keynote (30min) Video Presentation

Kenji Yamaguchi (Ochanomizu U), Anna Kuwana (Gunma U), Katsuhisa Kagami (Ochanomizu U)

Development of Hands-on Teaching Materials for Decoding in Senior High School

Student Paper (15min) Tianrui Feng, Takashi Hosono, Souma Yamamoto, Takafumi Kamio Shogo Katayama, Anna Kuwana, Haruo Kobayashi (Gunma U), Kouji Hirai, Akira Suzuki, Satoshi Yamada, Tomoyuki Kato, Ritsuko Kitakoga, Takeshi Shimamura, Nobuto Ono, Kazuhiro Miura (Jedat Inc.)

Self-biasing Reference Current Source with Two Nagata Current Mirrors Insensitive to Temperature and Supply Voltage

Student Paper (15min): Souma Yamamoto, Takashi Hosono, Takafumi Kamio, Shogo Katayama, Kuswan Isam Ebisawa, Tianrui Feng, Anna Kuwana, Haruo Kobayashi (Gunma U), Kouji Hirai, Akira Suzuki, Satoshi Yamada, Tomoyuki Kato, Ritsuko

Kitakoga, Takeshi Shimamura, Gopal Adhikari, Nobuto Ono, Kazuhiro Miura (Jedat Inc.)
Comparison of Three Types of Startup Circuits for Self-biasing MOS Reference Current Sources

Student Paper (15min): Ryoma Shirakawa, You Yin (Gunma U)

Finite Element Analysis of Phase-Change Device with Incorporated Nanostructures for Lowering Writing Current

Invited Paper (20min): Tatsuo Hagino, Shinsuke Hara, Ruibing Dong, Satoru Tanoi, Mohamed H. Mubarak, Issei Watanabe, Akifumi Kasamatsu (National Institute of Information and Communications Technology)

Terahertz Radio in System Level Simulation

Student Paper (15min): Lengkhang Nengvang, Shogo Katayama, Jianglin Wei, Lei Sha, Anna Kuwana (Gunma U), Kazufumi Naganuma, Kiyoshi Sasai, Junichi Saito, Katsuaki Morishita (ALAP), Haruo Kobayashi (Gunma U)

Generalized Leslie-Singh Architecture of 1st order Delta-Sigma AD Modulator with Different Resolutions of ADC and DAC

3:15pm-17pm

Session Chair: Haruo Kobayashi (Gunma U)

Student Paper (15min): Yi Liu, Anna Kuwana, Xiongyan Li (Gunma U), Atsushi Motozawa (Renesas Electronics), Haruo Kobayashi (Gunma U)

Segmented DAC Linearity Improvement Algorithm Using Unit Cell Sorting with Digital Method

Invited Paper (20min): Tianyu Yan, Hao Long, Jianyang Zhou (Xiamen University), Haijun Lin (Xiamen University of Technology)

Model Simplification and Modeling of SiC MOSFET

Student Paper (15min): Zifei Xu, Xueyan Bai, Dan Yao, Anna Kuwana, Haruo Kobayashi (Gunma U)

Revival of Asynchronous SAR ADC based on Hopfield Network

Student Paper (15min): Yonglun Yan, Miho Arai, Anna Kuwana, Haruo Kobayashi
(Gunma U),

Proactive Use of Finite Aperture Time in Sampling Circuit for Sensor Interface

Invited Paper (20min): Kazuyoshi Kubo, Masato Kasahara, Mitsuomi Ideo, Yasuhiro
Kato (NIT Oyama College)

On how we have dealt with the COVID-19 at NIT Oyama College

他の IPS セッションも聴講されたい方はその IPS のオーガナイザの方にご連絡ください。

<http://conf.e-jikei.org/ICTSS/2021/InvitedSessions.htm>