

2019 Congress CDC_proceedings

2019 IDEC Congress

Chip Design Contest (Oral Session)



Chair : Kyung-Rok Cho

(Chungbuk National University, Korea)

09:30~10:40, Jul. 4

양승택오디토리움 (학술문화관 2F)



주최  산업통상자원부  **kiat**

주관  반도체설계교육센터  **KAIST**

2019 IDEC Congress

Chip Design Contest (Oral Session)

> >>> IDEC Congress 우수성과 전시팀



전시번호	논문명	저자명	소속
WA4-007	A 7-GHz CMOS Bidirectional Variable Gain Amplifier With Low Gain and Phase Imbalances	Bosug Suh, Doojung Kim and Byung-Wook Min	Yonsei University
WA4-008	Low-Area TCAM Using A Don't Care Reduction Scheme	우기찬, 양병도	충북대학교
WA4-009	A 7.8Gb/s/pin 1.96pJ/b compact single-ended TRX and CDR with phase-difference modulation for highly reflective memory interface	Sooeun Lee, Jaeyoung Seo, Kyunghyun Lim, Jaehyun Ko, Jea-Yoon Sim, Hong-June Park, Byungsub Kim	POSTECH

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전시번호	논문명	저자명	소속
WP3-002	A 655Mbps Successive-Cancellation Decoder for a 1024-bit Polar Code in 180nm CMOS	Hye-Yeon Yoon, Seung-Jun Hwang, Tae-Hwan Kim	Korea Aerospace University
WP3-001	A 2.1TFLOPS/W Mobile Deep RL Accelerator with Transposable PE Array and Experience Compression	Changhyeon Kim, Sanghoon Kang, Dongjoo Shin, Sungpill Choi, Youngwoo Kim, Hoi-Jun Yoo	KAIST
WP3-003	An Area-Efficient Reconfigurable CNN-LSTM Architecture for Automatic Speech Recognition System	Hyunho Kim, Hyein Shin, Seungkyu Choi, Hyeonuk Kim, Yeongjae Choi, Jaehyeong Sim, Lee-Sup Kim	KAIST

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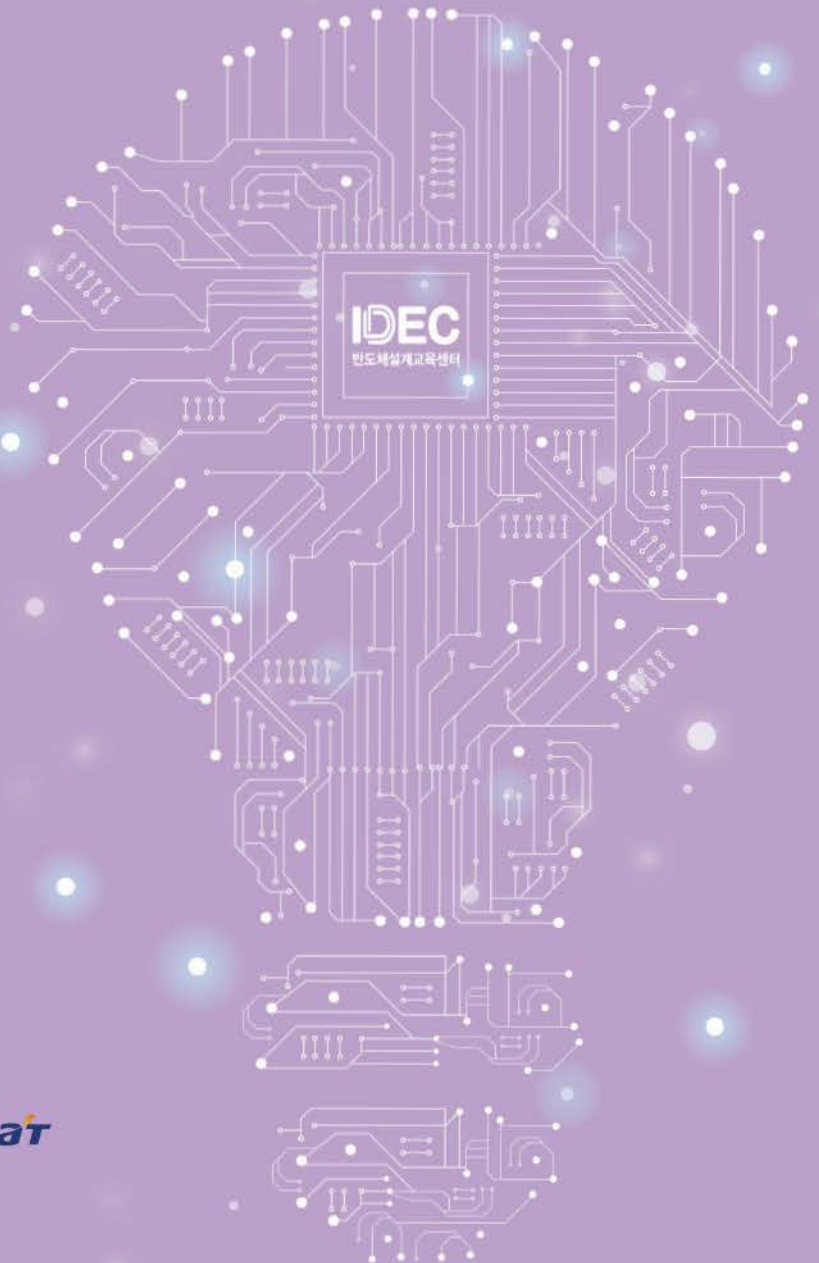
2019 IDEC Congress



Chip Design Contest (Poster Session)

Chair : Byungsub Kim (POSTECH, Korea)

09:30~15:00, Jul. 4

스카이라운지 (학술문화관 5F)



주최  산업통상자원부  KIAT

주관  반도체설계교육센터  KAIST

2019 IDEC Congress

Chip Design Contest (Poster Session)

> >>> IDEC Congress 우수성과 전시팀



전시번호	논문명	저자명	소속
WA4-001	A 0.65V, 11.2Gb/s Power Noise Tolerant Source-synchronous Injection-locked Receiver with Direct DTLB DFE	Dongil Lee, Yong-Hun Kim, Daewoong Lee, and Lee-Sup Kim	KAIST
WA4-002	Characterization and Optimization of Inverted-T FinFET Under Nanoscale Dimensions	Eunseon Yu, Keun Heo, and Seongjae Cho	Gachon University
WA4-003	A Near-Threshold Voltage Oriented Digital Cell Library for High-Energy Efficiency and Optimized Performance in 65nm CMOS Process	Jaehun Jun, Jaegeun Song, and Chulwoo Kim	Korea University
WA4-004	Effects of Metal-Interlayer-Semiconductor Source/Drain Contact Structure on n-Type Germanium Junctionless FinFETs	정승근, 김승환, 김광식, 유현용	Korea University
WA4-005	3-D Floating-Gate Synapse Array With Spike-Time-Dependent Plasticity	최현석, 김윤, 위대훈, 김형진, 김성준, 유경창, 박병국	서울시립대
WA4-006	A -20 to 30 dBm Input Power Range Wireless Power System With a MPPT-Based Reconfigurable 48% Efficient RF Energy Harvester and 82% Efficient A4WP Wireless Power Receiver With Open-Loop Delay Compensation	김상윤	성균관대학교
WA4-007	A 7-GHz CMOS Bidirectional Variable Gain Amplifier With Low Gain and Phase Imbalances	Bosug Suh, Doojung Kim and Byung-Wook Min	Yonsei University
WA4-008	Low-Area TCAM Using A Don't Care Reduction Scheme	우기찬, 양병도	충북대학교
WA4-009	"A 7.8Gb/s/pin 1.96pJ/b Compact Single-Ended TRX and CDR with Phase-Difference Modulation for Highly Reflective Memory Interfaces"	Sooeun Lee, Jaeyoung Seo, Kyunghyun Lim, Jaehyun Ko, Jea-Yoon Sim, Hong-June Park, Byungsub Kim	POSTECH
WA4-010	A 10MHz Time Domain Controlled Current Mode Buck Converter with 8.5% to 93% Switching Duty Cycle	강진규, 정민규, 박정표	한양대학교

2019 IDEC Congress

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> > > 2019 IDEC Congress CDC 수상팀

전시번호	논문명	저자명	소속
WP3-001	A 2.1TFLOPS/W Mobile Deep RL Accelerator with Transposable PE Array and Experience Compression	Changhyeon Kim, Sanghoon Kang, Dongjoo Shin, Sungpill Choi, Youngwoo Kim, Hoi-Jun Yoo	KAIST
WP3-002	A 655Mbps Successive-Cancellation Decoder for a 1024-bit Polar Code in 180nm CMOS	윤혜연	한국항공대학교
WP3-003	An Area-Efficient Reconfigurable CNN-LSTM Architecture for Automatic Speech Recognition System	Hyunho Kim, Hyein Shin, Seungkyu Choi, Hyeonuk Kim, Yeongjae Choi, Jaehyeong Sim, Lee-Sup Kim	KAIST

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> > > 2019 IDEC Congress CDC 수상후보팀

전시번호	논문명	저자명	소속
WC3-001	A Deep Convolutional Neural Network Training Processor for Personalization on Smart Devices	Seungkyu Choi, Jaehyeong Sim, Yeongjae Choi, Hyeonuk Kim, Lee-Sup Kim	KAIST
WC3-002	A 1-MHz fixed frequency current-mode hysteretic buck converter with reset counting scheme	Mingyu Jeong, Jeong, Jin-Gyu Kang, Changsik Yoo	Hanyang university
WC3-003	A 0.5V 9.26μW 15.28mΩ/√Hz Bio-Impedance Sensor IC with 0.55° Overall Phase Error	"Kwantae Kim, Ji-Hoon Kim, Surin Gweon, Soyeon Kim and Hoi-Jun Yoo"	KAIST
WC3-004	Reliable Ultra-Low Power 8-bit Microprocessor Design	JinKyung Lee, Kyung Ki Kim	Daegu University
WC3-005	A Detect and Skip Algorithm for Low-Power Bio-Potential Sensing Applications in 180-nm CMOS	CongLuong Nguyen, Jung-Hyung Kwon, Chang-Hyung Choi, and Jong-Wook Lee	KyungHee University

2019 IDEC Congress

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전시번호	논문명	저자명	소속
NP3-001	Flash-type Analog-to-Digital Converter for High Speed Image Sensor Signal Processing	SangHwan Kim,JangKyoo Shin	Kyungpook National University
NP3-002	Design of Delta Sigma ADC with Multi-bit DAC	CheonwiPark,Byung Geun Lee	GIST
NP3-003	STDP Learning for Non-volatile Memory-based Spiking Neural Network using Comparator Metastability	Sang Gyun Gi,Byung Geun Lee	GIST
NP3-004	DVS sensor design in standard CMOS process	Donghwan Seo,Byung Geun Lee	GIST
NP3-005	Front-End ASIC for CPG Radiation Detector Readout System	Waseem Muhammad,Seungju Kim,Youngtaek Kim	Korea University
NP3-006	Functionality Assessment Of Valid Signal Selecting and Position Decoding ASIC	Seungju Kim,Waseem Muhammad,Youngtaek Kim	Korea University
NP3-007	1.22 TOPS/W CNN, 628Mbps AES reconfigurable processor for secure smart devices	Yeongjae Choi,Jaehyeong Sim, LeeSup Kim	KAIST
NP3-008	A Wide-Supply-Voltage Range CMOS Bandgap Voltage Reference	Ruhaifi Bin Abdullah Zawawi, Wajahat H. Abbasi, Ho-Sung Kang, Seong-Woo Kim and Jungsuk Kim	Gachon University
NP3-009	RISC-V ISA를 활용한 보안 SoC 설계	Hojae Shim, Ji Hoon Kim, Ji-Hoon Kim, Dong Kyue Kim	Hanyang university
NP3-010	PQC(Post Quantum Cryptography) 암호 IP 설계	BeomJoon Park, Dong Kyue Kim	Hanyang university
NP3-011	CMOS Power Amplifier for 900 MHz band Applications	Jinho Yoo	Soongsil University
NP3-012	Design of CMOS Linear Power Amplifier for Mobile application	Jiwon Kim, Jinho Yoo	Soongsil University
NP3-013	차량용 레이더를 위한 24 GHz 전력증폭기 설계	Jaeyong Lee	Soongsil University

전시번호	논문명	저자명	소속
NP3-014	이중 모드 2.4 GHz 전력 증폭기	Joseph Jang,Jaeyong Lee	Soongsil University
NP3-015	Supply Modulator for CMOS Power Amplifier Applications	Jinho Yoo	Soongsil University
NP3-016	Implementation of Security SoC using RISC-V Secure Core	Wonbae Kong, Ji Hoon Kim, Dong Kyue Kim	Hanyang university
NP3-017	A Lightweight Cryptographic Processor Supporting SHA-256/ARIA-AES GCM/ECC (SAGE)	Sang Hyun Lee, Byung Yoon Sung, Byung Gwan Park, Kyung-Wook Shin	Kumoh National Institute of Technology
NP3-018	A Synchronous Buck Converter with Low-Swing Gate Driver	TANG JUN, Jeongjin Roh	Hanyang University
NP3-019	A High Efficiency Dual-Mode Buck Converter IC For Portable Applications in 0.65nm CMOS Process	DANG VAN THAI, Ji Young Lee, Ji Min Choi, Kwang-Hyun Baek	Chung Ang University
NP3-020	A Digital-based Switched-Capacitor Power Amplifier with active load modulation	Hyunjin Ahn, and Ockgoo Lee	Pusan National University
NP3-021	Monolithic Integrated Circuits for 1024-channel on-chip Electrocardiography Neural Recordings	Shinyong Shim, Brian N Kim and Sung June Kim	Seoul National University
NP3-022	VR Image Watermarking Module based on SIFT features	I seul Kang, Won Jun Moon, Young Ho Seo	Kwangwoon Univ
NP3-023	A Multiphase Synchronous Buck Converter with Dynamic Dead-time Control	TANG JUN, Jeongjin Roh	Hanyang University
NP3-024	MoM CDAC을 사용한 10bit SAR ADC	Nam Kyu Kim, Ji-Yong Um	University of Hannam
NP3-025	Analysis of On-Chip Low-Dropout Regulator Effect on Ground Noise in High-Speed Output Buffers	Shinyoung Park, Subin Kim, Seungtaek Jeong	KAIST
NP3-026	Fault-Safe IoT Hibernation Platform using Power Profile Monitor based on Communication-Centric Auto-Tuning and RISC-V	Hyeongyun Moon, Daejin Park	Kyungpook National University
NP3-027	서브-샘플링기법을 통해 잡음을 개선한 3.2GHz에서 동작하는 위상 고정 루프	Kitae Yoo, Dong Hyun Yoon	Chung Ang University

전시번호	논문명	저자명	소속
NP3-028	초음파 신호를 사용하는 Pipelined SAR ADC 디지털 Background 보정기법	Nam Kyu Kim,Hyun Tae Park	Hannam University
NP3-029	High sensitivity readout integrated circuit with double-edge-triggered flip-flop	Chi YeonKim	KAIST
NP3-030	Low power readout integrated circuit with asynchronous clock-gating technique	Chi YeonKim	KAIST
NP3-031	Design of a dual-mode read-in IC for IR scene projector	Min Ji Cho	KAIST
NP3-032	Design of a dual-mode read-in IC for IR-scene projector	Min Ji Cho	KAIST
NP3-033	Mode-selective Read-in IC for resolution improvement	Min Ji Cho	KAIST
NP3-034	Response Unstability Detection Technique Using Response Decision Time for Complementary Physical Unclonable Function	Ju Hyeok Ahn,Jong-Phil Hong	Chungbuk National University
NP3-035	A 94GHz Self Quenching Regenerative Receiver for Data Communication in 65 nm CMOS	Ji Wong Jang,Jong-Phil Hong	Chungbuk National University
NP3-036	DPA Countermeasure Circuit with Hiding Technique	Duhyun Jeon,and Byong-Deok Choi	Hanyang University
NP3-037	RC Relaxation Oscillator for Frequency Reference	Duhyun Jeon,and Byong-Deok Choi	Hanyang University
NP3-038	A 12-bit DAC using Dynamic Element Matching Technique	Bo Kyong Choi and Kwang-Hyun Baek	Chung Ang University
NP3-039	A 12-bit Multi-Channel 2-stage R-R DAC for Area-Efficient Display Source Driver	Yong Jun Jo and Kwang-Hyun Baek	Chung Ang University
NP3-040	A Low-Power Chopper Amplifier with sub-GΩ Input Impedance and High Power Efficiency Factor	DuongDuc Nha,JungHyung Kwon	KyungHee University
NP3-041	A 10-b Noise Shaping SAR ADC with Gain Tunable Dynamic Amplifier	ChangHyung Choi,JongWook Lee	KyungHee University
NP3-042	A Low-Power High-Speed SAR ADC	Hyungyu Ju and Minjae Lee	GIST

전시번호	논문명	저자명	소속
NP3-043	3차 이산-시간 델타-시그마 모듈레이터	Seunggi Hong and Jeongjin Roh	Hanyang University
NP3-044	A Continuous-Time Delta-Sigma Modulator for High Speed Signal Processing	Seokjae Song and Jeongjin Roh	Hanyang University
NP3-045	A 107 dB SNDR 25 kHz Bandwidth 3rd-Order Delta-Sigma Modulator	Seokjae Song and Jeongjin Roh	Hanyang University
NP3-046	Phase Selector for Lock-In Amplifier	Swjin Jeon, JaeSang Lee, DoHyun Kim, SeokHo Hong, YoungWan Choi	Chung Ang University
NP3-047	Charge Sensitive Amplifier for Pulse Signal Processing in Gamma-Ray Detection	Swjin Jeon, JaeSang Lee, DoHyun Kim, SeokHo Hong, YoungWan Choi	Chung Ang University
NP3-048	Two-negative feedback loop PLL with second-order filter	Kyung-Seok Park and Young-Shig Choi	Pukyong National University
NP3-049	장거리/대용량 전송 통신을 위한 밀리미터파 CMOS 수신기 설계	Hyunkyu Lee, Seungwon Park and Sanggeun Jeon	Korea University
NP3-050	Infinite-Impulse Response Decision Feedback Equalizer with Body Bias in 65 nm CMOS	Daewoong Lee, and Lee-Sup Kim	KAIST
NP3-051	Clock-Path Feedback Equalization Receiver with Unfixed Tap Weighting Property in 65 nm CMOS	Daewoong Lee, and Lee-Sup Kim	KAIST
NP3-052	Radiation Detection SoC for Co-Planar Grid Sensors	Kwanghyun Shin, and Dongsuk Jeon	Seoul National University
NP3-053	A Simple Biphasic Current Pulse Generator with Variable Parameters for Distributed Neural Interfaces	Shinyong Shim, and Sung June Kim	Seoul National University
NP3-054	Energy-optimized symmetric BC-BCH decoder for mobile NAND flash systems	Seokha Hwang, Seungsik Moon, and Youngjoo Lee	POSTECH
NP3-055	0.43 pJ/b, 40 Gb/s Inductive and Resistive Feedback Inverter-based PAM-4 VCSEL Driver with 2-tap Asymmetric Pre-emphasis	MoonChul Choi, Byungmin Kim, HanGon Ko and DeogKyoon Jeong	Seoul National University

전시번호	논문명	저자명	소속
NP3-056	Energy-Efficient Deep-Neural-Network Training Processor with Fine-grained Mixed Precision	Jinsu Lee,Juhyoung Lee,Donghyeon Han and Hoi-Jun Yoo	KAIST
NP3-057	A 141.4 mW Low-Power Online Deep Neural Network Training Processor for Real-time Object Tracking in Mobile Devices	Donghyeon Han,Jinsu Lee,Jinmook Lee,Sungpill Choi and Hoi Jun Yoo	KAIST
NP3-058	A 46.1 fps Global Matching Optical Flow Estimation Processor for Action Recognition in Mobile Devices	Juhyoung Lee,Changhyeon Kim,Sungpill Choi,Dongjoo Shin,Sanghoon Kang and Hoi Jun Yoo	KAIST
NP3-059	LDO with Large Allowable Current	Mun min woong,Kim hyeok jin,Bang jung hyun and 조성익	Chonbuk National University
NP3-060	A 2.4 GHz CMOS Inductively Source Degenerated Low Noise	Kim dong myeong, Lee jong oh,Park ji hyun and 임동구	Chonbuk National University
NP3-061	A CMOS Power Amplifier using Back-off Efficiency Enhancement Technique	Seungwon Park and Sanggeun Jeon	Korea university
NP3-062	A CMOS Power Amplifier using Adaptive-bias Circuit	Seungwon Park and Sanggeun Jeon	Korea university
NP3-063	Detection of Hot Carrier Generated Phonon Using the Gate-Induced Drain Leakage in the Silicon Chip	Seongwook Choi,Nak Won Yoo,Jun Yeon Yun and Young June Park	Seoul National University
NP3-064	멀티비트 플라잉 커패시터의 전압제어를 이용한 3-레벨 벡 변환기	Jin Woo So and Gwng-Sub Yoon	INHA University
NP3-065	8-Bit SAR A/D Converter With split capacitor	Jin Woo So and Gwng-Sub Yoon	INHA University
NP3-066	A 256-stage UART Programmable Arbitrary Digital Signal Generator and a Pulse Encoder for RFID Reader Applications	Choi seongwook,Jinhong Ahn and Young June Park	Seoul National University
NP3-067	Double-sampling high-pass delta-sigma modulator with inherent frequency translation	Sein Oh	Kookmin University

전시번호	논문명	저자명	소속
NP3-068	Costas Loop 기반 RVDT 디지털 신호처리기 구현	Yong Heum Yeon and Jong-Yeol Lee	Chonbuk National University
NP3-069	PVT-tolerant Dynamic Amplifier	Sein Oh	Kookmin University
NP3-070	ADC For Low Frequency Sensor	YoungGyun Oh and Hyungil Chae	Kookmin University
NP3-071	DC-DC Converter With On-Chip Current-Sensing	HoYong Lee and KwangSub Yoon	INHA University