

Editor's Column

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Life is like a pen. It's getting shorter every day. Make sure you draw something nice while it's still there.

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Editorial Letter

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THE first issue of *Electronics* journal in June 2020 brings one review paper, which covers the application of swarm optimization algorithms in the field of photovoltaic systems control, and four regular papers reporting original research results in the field of analog and digital electronics, image processing, and electronics materials and technologies.

The first paper "A Comprehensive Review of Swarm Optimization Algorithms for MPPT Control of PV Systems under Partially Shaded Conditions," authored by D. Pilakkat, S. Kanthalakshmi, and S. Navaneethan, is a review paper that provides a survey on different Swarm Intelligence (SI) based maximum power point tracking (MPPT) algorithms for photovoltaic (PV) systems. As pointed out by the authors, the described algorithms are suitable for operation under partially shaded conditions.

The paper "Revisiting Analytical Models of N-Type Symmetric Double-Gate MOSFETs," by R. U. Ahmed and P. Saha, presents analytical models of n-type symmetric double-gate MOSFETs based on analyses of electrostatic potential distribution. The authors provided mathematical derivations of the device models and carried out numerical simulations to validate their repeatability.

The paper "On the Implementation of Multi-Bit Inexact Adder Cells and Application Towards Image De-Noising," by S. K. Beura, A. A. Jawale, B. P. Devi, and P. Saha proposes 2-bit inexact adder cell and its extension to 4-bit and 8-bit adder

variants. The cell has been evaluated mathematically in terms of error metrics and verified through the Cadence Spectre with special focus on performance parameters such as delay and power consumption. Moreover, the authors applied proposed design to image de-noising application, where different image processing metrics (namely, Peak Signal to Noise Ratio, Normalized Correlation Coefficient and Structural Similarity Index) has been analyzed through MATLAB simulations.

The paper "Characteristics of $Zn_{1-x}Al_xO$ NR/ITO Composite Films Oriented Application for Optoelectronic Devices," authored by N. D. Lam, focuses a hydrothermal method for growing wurtzite type $Zn_{1-x}Al_xO$ NR structures on ITO substrate producing $Zn_{1-x}Al_xO$ NR/ITO composite film. The paper investigates influences of the Al doping concentration on surface morphology, structural and optical characteristics of the $Zn_{1-x}Al_xO$ NR/ITO composite film. Moreover, the author evaluates electrical property of the $Zn_{1-x}Al_xO$ NR/ITO composite film in order to find out optimized conditions for application in optoelectronic devices fabrication.

The paper "A Novel Dual Output Schmitt Trigger Using Second Generation Current Controlled Conveyor," by A. Srinivasulu, S. Zahiruddin, and M. Sarada, describes a novel configuration of the Schmitt trigger using a topology with the single second generation Current Controlled Conveyor (CCCII) and only two externally connected resistors. The proposed configuration is tested experimentally using current-feedback operational amplifier (CFOA) and operational transconductance amplifier (OTA) integrated circuits.

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