Consumer Electronics Can Ensure Food Safety

By Saraju P. Mohanty

I welcome the readers to the first 2019 issue of CE magazine. We had a successful 2018 with 6 issues for the first time. CE Magazine covered various hots topics as cover themes. I think CE magazine has reached and will continue reaching its readers more frequently with latest technical trend as well as activities and news from CE society. I would like to thank CE society president and VP publication for the support. I am sure you are aware of the fact the CE magazine has an impressive impact factor of 1.434 as determined by Clarivate Analytics (formerly IP Science of Thomson Reuters) from the recent data. It has improved by 24.3% from the impact factor of 1.153 last year.

The current issue cover theme is dedicated to food quality monitoring. We may recall Jan 2018 issue of CE magazine was dedicated for smart healthcare. The various aspects of smart healthcare include healthy living, assisted living, remote healthcare, stress management, and automatic health monitor. Good food is one of the most basic requirements for healthy living, and quality of life in the modern society. Ensuring quality food should be integral part of both smart healthcare and smart agriculture in my view. Smart agriculture can handle food supply chain security, combating counterfeits (including seeds, organics, vegetables), reduction of spoilage, enhancement of consumer knowledge and safety, and efficient food recall. Ensuring food quality at the source-end through smart agriculture and consumer-end through smart healthcare can be double assurance before food is consumed by the consumer. Food can be decomposed or contaminated by naturally due to storage for a longer than its projected life span. Food can also be purposefully adulterated. Thus, requiring accurate, and portable mechanisms to verify the quality of food products before consuming for healthy life style.

NEWS – GENERAL

Empower Female Entrepreneurs at the 2018 WIE ILC Startup Pitch Competition: This article discussed the Pitch Competition which was organized by IEEE Santa Clara Valley Consumer Electronics (CE) Society and Young Professionals (YP) Affinity Group.

Members in the News - Past CE Society President recognized in Australia: Past CE Society president Stefan Mozar has been awarded the David Robinson award in Australia for his "Outstanding Achievements in Electronics Engineering".

NEWS – CONFERENCES

International Symposium on Consumer Technologies ISCT 2018 in St. Petersburg: This article reports the details of activities at the International Symposium on Consumer Technologies (ISCT) 2018 which took place at St. Petersburg, Russia, during 11th to 12th May 2018.

ARTICLES – GENERAL

Eat, but Verify: Low-Cost Portable Devices for Food Safety Analysis: This is the cover theme article. I consider this article addresses a very important area of smart city, smart healthcare, and smart agriculture that can solve the critical problem of food and medicine counterfeit. Specifically, the article presented a Nuclear Quadrupole Resonance (NQR) spectroscopy based food authentication method. The results demonstrate potentials of this method to lead to the development of hand-held tools to detect counterfeit food products.

Augmented Intelligence in Serious Games for Cognitive Rehabilitation: This article presents an approach for the development of intelligent interactive systems to make serious games faster.

A Smartphone-based Application Using Machine Learning for Gesture Recognition: This article presents a new machine learning algorithm to identify hand gestures more precisely.

Movement Modalities in Consumer VR Applications: A Case Study from Ocean Rift: This article presents evaluations of the movement modalities in virtual reality systems in terms of accessibility, comfort and immersion.

Leap Motion Targeting Performance in an Augmented Reality Workspace: This article discusses design of an augmented reality environment using the Leap Motion controller and an android smartphone.

Mobile Network-Aware Middleware Framework for Energy Efficient Cloud Offloading of Smartphone Applications: This article presents a middleware to make reward-based offloading decisions for higher energy savings.

Enabling Millimeter-Wave 5G Networks for Massive IoT Applications: This article discusses various challenges and solutions for communication and computation requirements of CE systems when the millimeter-wave 5G is deployed.

Cloud Empowered Self-Managing WSNs: This article discusses a scalable system architecture that integrates wireless sensor network (WSN) into the Internet of Things (IoT) to autonomously configure sensor nodes.

Why Piezoelectric Based Force Sensing is not Successful in Interactive Displays: This article presents the challenges of piezoelectric based interactive display.

Smart HD Receivers with Modular & Multi-functional Front-end blocks: This article presents the idea of a modular front-end to convert a standard TV receiver into an intelligent communication hub.

REGULAR COLUMNS

Bits Vs. Electrons -- From Hi-Fi to CLI: This article presents views on various forms of interface to computing devices.

Storage -- New Media Resolutions Drive Storage Requirements: This article presents how the media quality drives the storage requirements.

Hardware Matters -- Signature-Free Watermark for Protecting DSP core used in CE Devices: This article presents a signature-free watermarking technique for protecting DSP cores against counterfeiting.

Energy & Security Matters -- Security and Privacy Issues in Contemporary Consumer Electronics: This article presents various aspects of security and privacy issue in current generation CE.

CTA Insights -- Standardization of Television Energy Consumption: This article presents standardization of television from energy consumption point of view.

IP Corner -- Smart Product Recall: This article discusses smart product recall as compared to the traditional recall.

SOCIOECONOMIC IMPACT

Law Enforcement Feedback on Video Surveillance Recordings: This article discusses the advantages and disadvantages of video surveillance.

SPECIAL SECTION

This special section titled "Electronics for Sustainable Development" presents selected articles which present various advances in research related sustainability. I would like to thanks the Guest Editor for all the hard work for this special section which will be a good reading for CE community.

LOOKING FORWARD

I hope this issue with cover theme of food safety a wider set of CE community to advance their knowledge. I also hope more and more themes will be covered in future in this CE magazine on the latest hot topics with the help of editorial board and authors around the globe. I would like to thank all the authors, reviewers, members of the editorial board for all the support to make CE magazine a great venue for technical dissemination and outreach. Wish you all a great new year 2019.