



Message from Editor

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Dear readers,

At the outset, let me wish all our readers a Happy New Year 2019. We are presenting the first quarter issue of India Council Newsletter (ICNL) for the year 2019. This current issue of ICNL in 160 pages features a record number of 25 articles, few items unique to the 1st issue of the year such as India Council Execom members details for the year 2019, Reference to the Section Reports for the year 2018 submitted to R10 and a report on the recent R10 meeting held in Mar 2019 at Melbourne.

ICNL thanks the chairs of the Bangalore, Kerala/Kochi, Hyderabad, Madras, UP Sections for sending the reports of their Section activities as per guidelines, Dr. B. Satyanarayana, convener of the IEEE Foundation supported event “Celebrating Sir Jagadish Chandra Bose” and IEEE OES India Chapter for the report on the “Conference on Technologies for Renewable Energy and Water” and IC Chair and Secretary for their coordination. We look forward to receiving matter from all the organizers of events at the newsletter email id ieee.icnl@gmail.com as per the guidelines published in the newsletter and also available at <https://goo.gl/DcVPmx>

ICNL thanks the authors who have positively responded to our request and contributed the following informative and interesting articles which are included in this issue.

- The Cybersecurity Renaissance: Security Threats, Risks, and Safeguards by Dr. San Murugesan
- Solar Energy Harvesting Through Photovoltaics and Photocatalysis by Dr. Somnath C Roy
- A step towards integrated environment of technology based learning and quality assessment framework by Dr. N. Sarat Chandra Babu and Mr. N. Satyanarayana
- Dew Computing: A New Era of Computing Implying Minimization Over Internetwork Backhaul by Mr. Partha Pratim Ray
- The Convergence of IoT, AI and Blockchain Technologies by Mr. T.A. Balasubramanian
- Electronic Nose- An epitome of perfect sensor systems by Dr. Saakshi Dhanekar
- Design of Renewable Energy Powered Car by Dr. S. Elangovan
- Prayagraj Smart City by Mr. R. Srinivasan
- IoT Edge Systems with IEEE 21451 Standards A Perspective of Experiential Learning by Mr. P. V. S. Maruthi Rao
- Artificial Intelligence’s Journey from a “Value Optimizer” to a “Value Creator” by Mr. Sojan George and Mr. Rajeev Mullakkara Azhuvath
- Sensor Hub Environment for Autonomous Cars by Mr. V. P. Sampath
- Elliptic Curve Cryptography based Certification Authority by Mr. Kunal Abhishek
- The Smart Grid Computing: A Comprehensive View to Power Grid Systems by Sanjeevikumar Padmanaban1, Robin Singh Bhadoria, Frede Blaabjerg
- Driving disruption through innovation: The new business reality by Mr. Dinanath Kholkar
- Investigate the relationship between Lean and Industry 4.0 Technologies by Sanjiv Narula, Dr. Vishal Talwar, Dr. Maheshwar Dwivedy, Dr. Suya Prakash, Mr. Saravjit Singh
- Making Innovation work for your company by Prof. Arcot Desai Narasimhalu
- How To Win Customers And Influence Sales In Co-operative Banks Using Digital transformation by Mr. Sridhar Pandurangiah and Mr. Ganesh Chandrasekaran
- Machine Learning, the Next Milestone in Human Evolution by Dr. Subburaj Ramasamy
- Seasons of Code by Mr. Shakthi Kannan
- Techniques for efficient ETL Jobs using Apache Spark by Mr. M.G. Thiruvalluvan
- DeepVoice & DeepFakes: Exploiting AI-Generated Audio & Video — Boon & Bane by Ms. K. Visalini
- Social Listening through Sentiment Analysis by Ms. Mini Ulanat
- The Neoskilling Imperative for Fostering Innovation by Prof. L. Prasad (Retd.) and Mr. S. Ramachandran
- Jobs and Careers in the New Era by Mr. Gopalswamy Ramesh
- Inclusion begins at Home by Dr Saundarya Rajesh

ICNL wishes to add that the above articles published in this issue are not peer reviewed and are also not checked for plagiarism/copyright/accuracy for which the authors are responsible. Further, the views expressed in these articles are that of the authors and ICNL is not responsible for any consequences of using the information provided in these articles.

We are happy to have published the following excerpts from books with the permission of the authors & publishers.

- “Project Guidelines” Chapter 4 of the book, “i want 2 do project. tell me wat 2 do” by Shakthi Kannan
- “Self-Learner” Excerpts from the Chapter 1 of the book “ShapeIT: A Perfect Gift for Budding Engineers to Become Industry Ready” by R. Subramani & S. Vajayanthi

Chairman Dr. S.N. Singh in his message has highlighted about the forthcoming major events and also outlined few issues to be addressed and the guidelines formulated at IC. The” What’s hot in IT - An Indian Perspective” feature by Prof. S. Sadagopan, Director, IIT Bangalore provides a broad overview on various important happenings in the IT and Telecom sectors in India during Jan-Feb 2019. We are sure that readers will find the information and the related links provided in the column “Information Resources” compiled by the editor Mr. H.R. Mohan useful. We wish to add that “Interesting Reads”, a regular blog post published once in 5 days by him may also be of interest to our readers The archives of these blog posts can be accessed at <https://goo.gl/VGXizd> A note from Mr. Deepak Mathur, IEEE Region 10 Director-Elect 2019-2020 provides a brief on the incentive R10 scheme to the sections and highlights the ‘Conference Leadership Program’ being planned in Aug 2019.

We have also included briefs on nine books -- Wiley Innovation Black Book on Exponential Technologies 2019; ARTIFICIAL INTELLIGENCE: Reshaping Life and Business; i want 2 do project. tell me wat 2 do; Internet of Things; Business Analytics with Management Science Models and Methods; Failing to Succeed: The Story of India’s First E-Commerce Company; Future Proof Your Business: A Practical Guide to protect your Business – Now & into the Future; The Power of 360 Degree Feedback: The India Way for Leadership Effectiveness; and YD - Year Down.

We request the readers to make note of the announcements relating to various prestigious events such as TENSYP-2019, TENCON-2019 and INDICON-2019 etc., and submit papers and register early and get benefited.

We wish to remind our readers to encourage new members to join IEEE at 50% of the annual subscription and enjoy the membership benefits till Dec 2019.

ICNL thanks the various Internet sources and inshorts (<https://www.inshorts.com>) for the information nuggets. ICNL also thank Mr. Sunil Agarwal and Mr Ajit Ninan for the permission to use their thought provoking cartoons appeared in Times of India.

Note from IEEE R10 Director Elect – 2019-2020



Region 10 had devised new incentive scheme to motivate sections for the doing activities. Active sections, who submit the activity reports, are considered for the incentives from Region 10 under this scheme. The scheme was started by 2017-2018 Region 10 Director Prof Kukjin Chun and same has to continue in 2019. Region 10 recommends that the Section Chairs to utilize this incentive grants for new IEEE membership support.

Nine sections out of eleven sections from India got the incentives from Region 10 under this scheme. It is great to note that top 6 sections in the list are from India and Kerala Section secured top most position. With such an exemplary performance by Indian Sections, we still struggle with issues like member retention, inactive chapters, inactive student branches and conference quality. There is need to brainstorm to devise mechanism to curb this condition. Our sections, student branches and volunteers are continuously receiving awards and accolades at Region and MGA levels. I am sure with some planning and efforts, we’ll be able to improve the health of OUs in India. In my view, we should have thorough discussion in Student Branches, Sections, Chapters and Council on these issues and let us come out with some action plans. I am sure our volunteer leaders will be able to rejuvenate ailing OUs.

IEEE organizes approximately 2000 conferences annually and 50% conferences are Technically Cosponsored. Region 10 organizes more than 700 conferences every year and 60% of conferences are Technically Cosponsored conferences. Whereas India organizes 150+ conferences and 75% conferences are Technically Cosponsored. We need to check the quality of our conferences as per IEEE standards. There is a need to have more trained volunteers in sections who could guide conference organizers to run conferences as per IEEE Standards and follow the process to organize quality conferences. With this objective, Region 10 is planning to have a ‘Conference Leadership Program’ to train volunteers. I am sure sections will take advantage of this program.

Deepak Mathur
IEEE Region 10 Director-Elect 2019-2020
IEEE India Council Chair 2015-2016