# Editorial

The current edition of our journal showcases three groundbreaking research papers that push the boundaries of technology and engineering. These studies span diverse fields, including power system stability, mobile application security, and 5G communication technologies. Each paper not only presents innovative solutions but also lays the groundwork for future research and development in their respective areas.

The first paper delves into the critical realm of automatic generator control (AGC) within the National Transmission System (NTG). Focused on the Baba Hydroelectric Power Plant in Ecuador, this research offers a comprehensive examination of the oscillations in generator control systems and proposes robust solutions. By meticulously tuning both the Automatic Voltage Regulator (AVR) and the Power System Stabilizer (PSS), the authors have developed a model that adapts to various operating conditions. Their findings underscore the importance of a high-gain AVR for steady state and transient stability while highlighting the PSS's role in mitigating oscillatory instabilities. This study's validation strategy, employing the average quadratic mean square error method, provides a reliable framework for future enhancements in power system stability [1].

In an era where mobile applications are integral to daily life, ensuring the security of user information is paramount. The second paper addresses this pressing need by introducing CAPEF, a context-aware policy enforcement framework designed for Android applications. This innovative system mitigates privacy leakage by enforcing inter-app security policies without altering the underlying platform. The research demonstrates CAPEF's effectiveness through rigorous experimentation, showcasing minimal impact on application size and execution time even as policy complexity increases. By preventing malware collusion and safeguarding sensitive user information, CAPEF represents a significant leap forward in mobile application security [2].

The third paper presents a novel approach to designing a bandpass filter using substrate integrated waveguide (SIW) topology for 5G applications. This research aims to produce a dual-mode passband characteristic with a wide upper stopband behavior centered at 4.7 GHz. By incorporating Stepped Impedance Resonator (SIR) slots and E-shaped resonator slots, the authors have achieved remarkable improvements in selectivity and stopband response. The addition of surface mount varactor diodes enables tunable characteristics, allowing the center frequency of the passband to be adjusted over a range of 600 MHz. The successful fabrication and verification of the developed filter underscore its potential impact on advancing 5G communication technologies [3].

These three papers exemplify the cutting-edge research and innovative solutions that define our journal. From enhancing power system stability to securing mobile applications and pioneering 5G technologies, the contributions of these studies are both profound and far-reaching. We are proud to present these works to our readers and look forward to the continued advancements they will inspire in their respective fields.

**References:**


[1] J. Urquizo, D. Bonilla, F. Rivera, R. Chang, “Modelling, Simulation and Sensitivity Analysis of Generator Control Systems using Coexisting and Cooperative Tools,” Journal of Engineering Research and Sciences, vol. 2, no. 1, pp. 1–12, 2022, doi:10.55708/js0201001.

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[3] Md.A. Rahman, P. Sarkar, “A Tunable Dual-mode SIW Cavity Based Bandpass Filter with Wide Upper Stopband Characteristics,” Journal of Engineering Research and Sciences, vol. 2, no. 1, pp. 24–29, 2022, doi:10.55708/js0201003.

**Editor-in-chief**

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