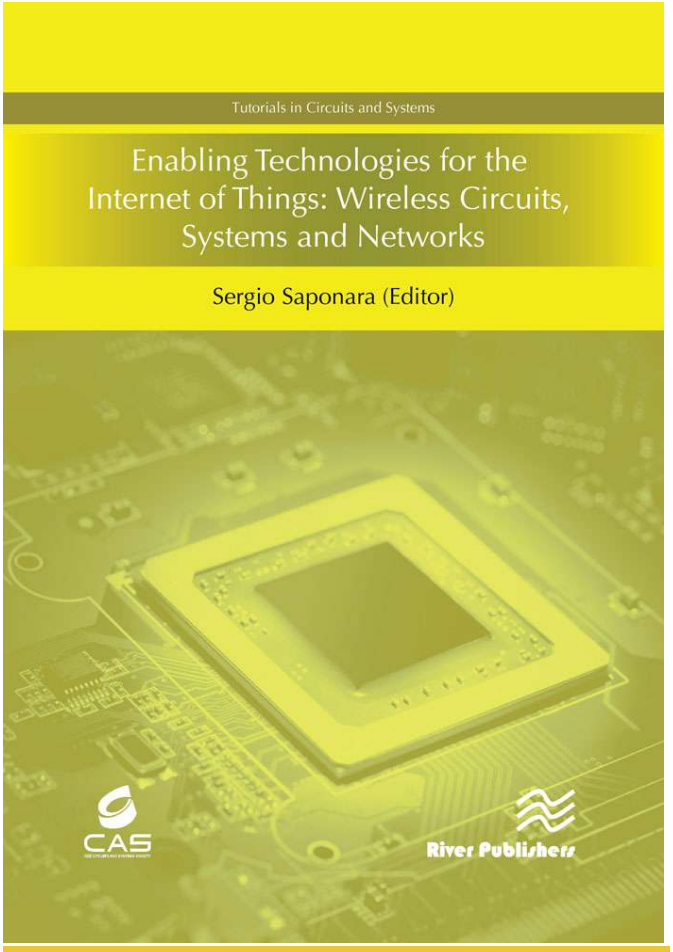
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Enabling Technologies for the Internet of Things: Wireless Circuits, Systems and Networks

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Enabling Technologies for the Internet of Things: Wireless Circuits, Systems and Networks collects slides and notes from the lectures given in the 2017 Seasonal School Enabling Technologies for the Internet-of-Things, supported by IEEE CAS Society and by INTEL funding, and organized by Prof. Sergio Saponara, and Prof. Giuliano Manara.

The book discusses new trends in Internet-of-Things (IoT) technologies, considering technological and training aspects, with special focus on electronic and electromagnetic circuits and systems. IoT involves research and design activities both in analog and in digital circuit/signal domains, including focus on sensors interfacing and conditioning, energy harvesting, low-power signal processing, wireless connectivity and networking, functional safety (FuSa). FuSa is one of the emerging key issues in IoT applications in safety critical domain like industry 4.0, autonomous and connected vehicles and e-health. Our world is becoming more and more interconnected. Currently it is estimated that two hundred billion smart objects will be part of the IoT by 2020. This new scenario will pave the way to innovative business models and will bring new experiences in everyday life. The challenge is offering products, services and comprehensive solutions for the IoT, from technology to intelligent and connected objects and devices to connectivity and data centers, enhancing smart home, smart factory, autonomous driving cars and much more, while at the same time ensuring the highest safety standards. In safety-critical contexts, where a fault could jeopardize the human life, safety becomes a key aspect.



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