IEEE Future Networks Initiative Series on 6G Technologies and Applications

IMPORTANT DATES

- Manuscript Submission by **24 January 2020**

- First Round Reviews **24 April 2020**

- Second round submissions **12 June 2020**

- Second Round Reviews **11 August 2020**

- Publication **December 2020**

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5G networks have made a significant step towards developing a low latency tactile access network and open new opportunities for innovative automation of network resources and operations. As we progress on the deployment of 5G, work has already started to define what 6G networks should be. First ideas were presented in the recent 6G special issue published in VTM (September 2019). Building on the success of this issue and the IEEE Future Networks 5G Series, this 6G series will lay down the concepts, basic functionalities, supported services and break-through technologies for 6G networks. The next generation of communications networks will resemble the nervous system to create new smart infrastructures that feature proactive, secure and adaptive paradigms. With the increase of large autonomy of systems, the protection of 'nervous system' against malicious attacks becomes significantly important. Moreover, the system autonomy and the large number of distributed sensor systems demand the simultaneous integration of new energy harvesting concepts. The move to machine-type communication demands radically separation of service processing and probably higher strict KPI. These technologies and challenges will be considered within the context of 6G networks.

This series is sponsored by the *IEEE Future Networks* initiative and is aimed at helping the research and industrial communities define and shape the architecture, technologies and services for 6G networks. We are soliciting original contributions that have not been published and are not currently under consideration by any other journals. The topics of interest include, but are not limited to:

- 6G Dimensions and KPI requirements

- Methods and technologies to harness new spectrum

- AI/ML assisted PHY and networking

- MU-MIMO and new antenna technologies

- New medium access technologies

- 6G networks and solutions including 6G-U and private networks

- New core network entities and interfaces

- Network assurance and service provisioning

- Cloudification, bigdata, orchestration, multi-access edge computing and IoT

- Cyber security and encrypted connectivity

- Wireless networking using the optical spectrum

- Quantum communications

- Terahertz communications

- Wireless harvesting technologies and energy efficiency

- 6G-enabled vertical applications and services

Submissions should clearly identify how they relate to 6G and how they would progress beyond current 5G technologies. Submitted papers should contain state-of-the-art research material presented in a tutorial or survey style. All manuscripts should adhere to the IEEE VTM guidelines at http://www.ieeevtc.org/vtmagazine/submission.php. Authors should submit a PDF version of their complete manuscripts to http://mc.manuscriptcentral.com/vtm-ieee.