

## Call for Papers

### IEEE Transactions on Broadcasting

#### **Special Issue on Convergence of Broadcast and Broadband in the 5G Era**

The 5G broadband wireless networks aim to revolutionize different vertical industries, including media broadcasting. Although it remains to be seen the real impact and timescale of the *5G revolution*, 5G may represent an opportunity rather than a threat for broadcast, especially when considering new approaches for broadcast and broadband convergence. Hybrid broadcast-broadband platforms are already a success in several countries, based e.g. on HbbTV. But the increasing importance of fixed and mobile broadband IP delivery for television services are under development. Some illustrative examples are the new IP-based ATSC 3.0 standards and the on-going DVB-I (Internet) specification. Meanwhile, the 5G system will support and be interoperable with non-3GPP access technologies, potentially allowing multiple access technologies to be used simultaneously for one or more services, opening the door to new convergence scenarios.

The first version of 5G (3GPP Release 15) only supports point-to-point (unicast) delivery. Without point-to-multipoint (multicast/broadcast) delivery capabilities, 5G will lack an efficient mechanism to deliver the same content simultaneously to many users and/or devices. Work is on-going in 3GPP Rel-16 to define an LTE-based solution, known as feMBMS or enTV, suitable for terrestrial broadcast, as well as supporting non-3GPP access networks with dual connectivity. The introduction of multicast/broadcast in 5G New Radio (NR) and the service-enabled 5G Core is expected to start in Rel-17.

Even being promising from the technical side, the successful deployment of new 5G broadband-broadcast systems is also conditioned on business and regulatory related aspects. There have been recent developments that not so long ago were considered non-feasible. For example, the allocation of a 5G broadband wireless system license to a national broadcaster in China, or the possibility of the US broadcasters to provide services other than linear television content, such as IoT and connected car, using ATSC 3.0.

The special issue seeks for original high quality papers on the convergence of broadcast and broadband in the 5G era and beyond. Topics of interest include, but are not limited to:

- 3GPP standardization on convergence topics for 5G (e.g. fixed-mobile convergence, non-3GPP access with terrestrial broadcast networks)
- 5G Broadcast system and technology
- IP-based broadcast and broadband convergence (e.g., ATSC 3.0, DVB-I)
- Physical layer broadcast and broadband convergence.
- Novel architectural approaches on convergence
- Unicast/Multicast/Broadcast convergence (x-casting)
- Business models and regulatory approaches for broadcast-broadband convergence

Prospective authors should visit <http://bts.ieee.org/publications/ieee-transactions-on-broadcasting/information-for-authors.html> for information on paper submission. Manuscripts should be submitted at <http://mc.manuscriptcentral.com/tbc>. Manuscripts will be peer reviewed according to the standard IEEE publication process. For more information contact: [bt-pubs@ieee.org](mailto:bt-pubs@ieee.org)

#### Important Dates:

Manuscript submission due: Dec. 1st, 2019

First review completed: March 1st, 2020

Revised manuscript due: April 1st, 2020

Final manuscript due: April 16th, 2020

Expected Publication date: June 2020

#### Guest Editors:

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