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Special Session on
Massive MIMO and millimeter Wave Communications

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Scope of the session

Massive MIMO and millimeter wave communications have been considered as two of the key enabling technologies needed to meet the quality of service requirements for future 5G and beyond 5G wireless communication . The use of MIMO with mmW is very attractive, since it allows packing a huge number of antennas in the transmit and receive terminals. Thus, this combination offers more degrees of freedom to efficiently design the systems, but it also leads to more correlated channels and due to the hardware limitations is not practical to have one fully dedicated radio frequency chain for each transmit and receive antenna. Therefore, the conventional beamforming techniques designed for fully digital systems cannot be used and thus new efficient transmit and receive beamforming schemes must be exploited.

Prospective authors are invited to submit original and unpublished work on the following research topics related to this Special Session:

- *Low complexity millimeter wave and massive MIMO architectures (e.g. hybrid)*
- *Analog-digital transmit and receive beamforming*
- *Cell-free massive MIMO system*
- *Synchronization, channel modeling, estimation and tracking*
- *Ultra-Massive MIMO techniques*
- *Large Intelligent Surfaces*
- *Reconfigurable Intelligent Surfaces*