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Special Session on

Joint RADAR and Communications for 6G Networks

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Daniel Castanheira received the Ph.D. degree in electronics and telecommunications from the University of Aveiro, in 2012. He is currently an auxiliary researcher at the Instituto the Telecomunicações. His research interests are signal processing techniques for digital communications with an emphasis on physical layer issues including channel coding, precoding and interference cancelation.	Adão Silva received the Ph.D. degree in electronics and telecommunications from the University of Aveiro, in 2007. He is currently an Associate Professor with the DETI of the University of Aveiro, and Senior Researcher with the Instituto de Telecomunicações. His research interests include cooperative networks, multiuser detection, massive MIMO, and millimeter wave communications.	Atílio Gameiro received the Ph.D. degree in electrical and computer engineering from the University of Coimbra in 1993. He is currently an Associate Professor with the DETI of the University of Aveiro, and Senior Researcher with the IT, where he is the Head of the group. His current research activities involve space-time-frequency algorithms for broadband wireless systems and cross-layer design.

Scope of the session

RADAR and wireless communication are the most common radio functionalities used by both civilian and military applications. Traditionally, these systems have been designed and developed in isolation from each other. However, the independent design of these systems wastes valuable spectral resources. Therefore, the spectrum shortages combined with the emergence of novel applications requiring both functionalities, has inspired the research of joint radar and communication (RADCOM) systems in the same platform. This need will increase with 6G, which aims for supporting the convergence of the digital, physical, and personal domains. This requires expanding the functionalities of 5G, to include the integration of radio sensing and communications in support of both hardware-and spectrum-sharing.

Prospective authors are invited to submit original and unpublished work on the following research topics related to this Special Session including but not limited to:

- *novel waveforms for joint RADAR and communications*
- *Joint transmit and receive beamforming design for RADCOM*
- *Network Synchronization schemes*
- *Hybrid analog-digital beamforming and sub-arrayed MIMO*
- *Millimeter wave joint radar and communications*
- *Massive MIMO for RADCOM*

- *Efficient Clutter Suppression techniques*
- *Interference mitigation techniques*
- *Physical layer security for joint radar and communications*