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UiT / THE ARCTIC UNIVERSITY OF NORWAY

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Room '*Aula del consiglio*' via Roma 29, Aversa (CE)

Multiple Signal Classification: From Millimeter Resolution to Nanometer Resolution

Dr. Krishna Agarwal

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Abstract— Multiple signal classification (MUSIC) has been popular as a signal processing technique for decades. Its adaptation for imaging is fairly recent. However it has seen a quick growth as an imaging technique that applies in diverse imaging problems characterized by different frequency bands and underlying physics. From the initial application to acoustic imaging, it was quickly adapted for two-dimensional and three dimensional electromagnetic imaging in microwave regime, and recently for fluorescence imaging in optical regime. In this talk, I will present my work on MUSIC in RF and microwave regime (mm scale resolution) to MUSICAL (MUSIC ALgorithm) in fluorescence nanoscopy regime (50 nm resolution). I will discuss how MUSICAL is revolutionizing the field of optical nanoscopy. I will also briefly discuss how Marie Curie independent fellowship is a great opportunity for experienced researchers.

Biography Krishna Agarwal received her Ph.D from National University of Singapore in the year 2011 and B.Tech. degree from the Indian Institute of Technology (Indian School of Mines), Dhanbad, India, in 2003. She was awarded the Marie Skłodowska-Curie Actions Individual Fellowship for the year 2017-2019 and is currently an MSCA-IF Fellow at UiT-The Arctic University of Norway. She was awarded the "Young Scientist Award" by Union Radio Scientifique Internationale (URSI) in the year 2011. She was a post-doctoral associate at Singapore-MIT Alliance research & Technology Centre since 2014 to 2016. She was a research fellow at National University of Singapore from 2010 to 2014. She was a Scientist at the Defence Research and Development Organization, India, from 2003 to 2006 and worked towards the development of the front end of the active phased array radars. Her current research interests are computational nanoscopy, super-resolution imaging, and inverse problems.

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