

1. *"Wireless communication and power transfer for implantable devices"* by Dr. Pritam Bose –

Topics: General requirements for wireless communication and power transfer for implantable devices, different kinds of wireless power transfer technologies, applications, pros and cons, state-of-the-art research such as simultaneous wireless information and power transfer, and some future research directions.

Bio : Dr Pritam Bose received the M.Sc. degree in Telecommunications Engineering from the University of Trento, Italy, and the PhD degree in Medicine from the University of Oslo, Norway in 2016 and 2019 respectively. From 2020 to 2021, he was employed as the ERCIM postdoctoral fellow at the Norwegian University of Science and Technology, Norway. Since Oct 2021, he is employed as a Marie Curie Global Postdoctoral Fellow at the Coordinated Science Laboratory in the University of Illinois Urbana-Champaign, USA and as a researcher at the Intervention Centre, Oslo University Hospital, Norway. He received the prestigious Marie Curie Individual Fellowship from the European Commission to carry out his current research work. His research interests are biomedical signal processing, channel modeling for body sensor networks, communication system design and wireless power transfer for wireless medical implantable technologies.

2. *"Ultra-low Power Wireless Communication for implants"* by Dr. Ali Khaleghi - Senior Scientist - Norwegian University of Science and Technology (NTNU)

Topics: High data rate and low rate wireless communication with deep medical implants, ultra-low power intra-body communication, implant connectivity to the future wireless networks applications and challenges.

Bio : Dr. Ali Khaleghi received PhD in physics from the University of Paris XI, and Ecole Supérieure d'Electricité-Supélec (SUPELEC, Gif-sur-Yvette), France, in 2006. He was postdoc at the Institute d' Electronique et de Télécommunications de Rennes, France, and Intervention Centre, Oslo University Hospital (2006-2010). He was Assistant Professor in the ECE department at K.N.Toosi University, Tehran, Iran (2010-2015). He is a senior scientist at the department of electronic systems (IES), the Norwegian University of Science and Technology (NTNU), and the Intervention Center (IVS), Oslo University Hospital (OUS). He has carried out several industrial R&D projects; he is CO-PI and project leader for the Norwegian Research Council (NFR) projects: Wireless In-Body Sensor and Actuator Networks [WINNOW], Communications Theoretical Foundation for Wireless Nanonetworks [CIRCLE], Internet of Bio-NanoThings for Prediction and Prevention of Infectious Diseases [CLIQUEUS], also *FORNEY Innovation Grant* for technology verification of battery-free wireless capsule endoscopy. He is also Co-PI for EU H2020: FET Open (GLADIATOR and B-CRATOS) and H2020: ICT (5G-HEART). His research includes antennas and wave propagation, wireless communications, electromagnetic compatibility, measurement techniques, and bio-electromagnetics. He is authored over 100 peer-reviewed journals and conferences and holds nine patents.