Welcome to the PYTHON + MATLAB Training School on 6G Wireless Technologies: OTFS and IRS. With 5G systems being rapidly deployed around the globe, there is an accelerated development of Beyond 5G (B5G) and 6G wireless technologies that break the barriers of 5G. OTFS is a cutting-edge 2D modulation technique that operates in the Delay-Doppler domain, which makes it ideally suited for high mobility and high data-rate 6G networks. Intelligent reflecting surface (IRS) is another novel technology that enables dynamically altering the radio propagation environment via active and passive components to achieve a phenomenal boost in the capacities of Next Generation Networks. Together, these dual technologies are expected to power the shift to 6G. This training school will feature exhaustive tutorial style lecture modules and several intensive supervised PYTHON/ MATLAB/ OCTAVE programming modules so that participants are able to gain practical hands-on experience of working on state-of-the-art 6G projects.

All the modules will be held on evenings for convenience of participants. No prior knowledge of PYTHON/ MATLAB/ OCTAVE is required. The school includes introduction to programming in PYTHON/ MATLAB/ OCTAVE, along with TA supervised coding sessions for 6G projects.

How does this program benefit YOU?

• Learn the latest 6G technologies and PYTHON/ MATLAB/ OCTAVE programming via hands-on projects to prepare for projects/ placements
• Explore OTFS modulation for research in 6G and create PYTHON/ MATLAB/ OCTAVE-based courses, online labs for students!
• Master simulation and analysis of 6G OTFS and IRS technologies in next generation systems
• Gain expertise in practical implementation via PYTHON + MATLAB/OCTAVE projects

About the Trainer
Prof. Aditya K. Jagannatham is a Professor in the Electrical Engineering department at IIT Kanpur, where he holds the Arun Kumar Chair Professorship, and is a well known expert and trainer on 5G, Optimization and Machine Learning. He received his Bachelor’s degree from the Indian Institute of Technology, Bombay and M.S. and Ph.D. degrees from the University of California, San Diego, U.S.A. From April ’07 to May ’09 he was employed as a senior wireless systems engineer at Qualcomm Inc., San Diego, California, where he was a part of the Qualcomm CDMA technologies (QCT) division. His research interests are in the area of next-generation wireless networks, with special emphasis on various 5G technologies such as massive MIMO, mmWave MIMO, FBMC, NOMA, Full Duplex and others. He has published extensively in leading international journals and conferences. He has been recognized with several awards including the CAL(1T)2 fellowship at the University of California San Diego, Upendra Patel Achievement Award at Qualcomm, P.K. Kelkar Young Faculty Research Fellowship, Qualcomm Innovation Fellowship (QInF), Arun Kumar Chair and the IITK Excellence in Teaching Award.

Target Audience
• Ph.D. scholars pursuing research in 5G/ 6G technologies
• M.Tech/ B.Tech students undertaking thesis/ projects in Wireless technology
• Faculty members of Engineering Institutions/ Universities
• Engineers from Wireless Industry and R&D Organizations

For more details and registration information, visit the website http://www.iitk.ac.in/mwn/IITK6G/