

Manav Bhatnagar
Professor, Department of Electrical Engineering
Brigadier Bhopinder Singh Chair Professor
Indian Institute of Technology Delhi-110016

EDUCATION	Ph.D. (University of Oslo, Norway, 2007-2008), M.Tech. (I.I.T. Delhi, 2003-2005), B.E. (North Maharashtra University, 1993-1997)
JOINED IIT DELHI	As assistant professor in department of electrical engineering in July 2009, before that worked as post doctoral fellow in UNIK, Kjeller, Norway in 2008-2009, became associate professor in December 2012, became professor in August 2018.
THESES SUPERVISION	Ph.D. Thesis Supervised: 08; M.S. Thesis Supervised: 02; M.Tech. Thesis Supervised: 46
RESEARCH INTERESTS	Signal processing for MIMO systems, Cooperative communications, Cognitive networks, Multiuser communications, Free-space optical communication, Software defined radio, Power line communications, Satellite communications, Physical Layer Security.
PUBLICATIONS AND PATENT	International journal papers (Total): 108 (IEEE:81, IET:10) Ten single-authored IEEE journal papers International conference papers: 86 (IEEE:69) Book: 01 (PHI); Book chapters: 03 (IGI Global, IET) International patent: 01 (US patent, granted)
ACHIEVEMENTS	Fellow of INAE, NASI, IET (UK), IETE, OSI; Senior Member, IEEE NASI SCOPUS Young Scientist Award 2016, Shri Om Prakash Bhasin Award 2016 Brigadier Bhopinder Singh Chair Professor at IIT Delhi Sir Visvesvaraya Young Faculty Research Fellowship Exemplary Reviewer of IEEE Communications Letters for 2010 and 2012 Exemplary Reviewer of IEEE Transactions on Communications for 2015 Editor, IEEE Transactions on Wireless Communications in 2011-2014.
PROJECTS	National projects: DST (06) 8,41,62,508 INR (02 completed as PI, 03 ongoing (01 as PI and 02 as Co-PI), 01 approved as PI), IRD, IIT Delhi (01 completed), Planning Unit, IIT Delhi (01 completed) International project: participated in M2M, funded by Research Council of Norway
CONSULTANCIES	Physical Layer Security in DESIDOCs Network, DRDO (9.27 lakhs INR, completed), Evaluation of 5 W and 25 W DMR (TDMA) based Digital VHF Radio Sets for CRPF (0.92 lakh INR, completed), CAG Audit of DMRC (91 lakhs INR, ongoing)
RESEARCH CONTRIBUTIONS	Cooperative Communications: Low-complexity decoders for decode-and-forward protocol, design of STBC for asynchronous cooperative system, performance analysis of multi-hop cooperative networks, buffer-aided relaying Free-Space Optical (FSO) Communications: Limited feedback based transmitter encoding, mixed RF-FSO systems, performance analysis of optical space-shift keying Satellite Communication: Hybrid satellite-terrestrial communication systems, two-way satellite relaying Cognitive Networks: Collaborative spectrum hole detection with improved energy detector MIMO Systems: Precoding solutions for performance improvement over correlated fading, differential STBC design MAC MIMO Multi-user Communications: Improved interference cancellation, differential MAC multi-user communications Deterministic Signal Processing for MIMO: Deterministic beamforming and combining scheme Power Line Communication: Receiver design under non-Gaussian PLC noise, performance analysis