Faculty Profile

Name: Dr. Sachin Kumar Gupta

Designation: Assistant Professor

Department: Electronics & Communication Engineering

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Qualification: B. Tech [NIT Raipur], M. Tech [IIT (BHU), Varanasi], Ph.D. [IIT (BHU), Varanasi]

Experience:

Teaching: 3.5   **Researches:** 5   **Administration:**   2.5   **Total: 5**

Areas of Interest / Specialization:

1. Ad-hoc Networks (Mobile, Wireless Sensors, Vehicular)
2. Software-Defined Networking (SDN)
3. Free-space optical communication

Brief Bio-data:

Dr. S. K. Gupta received his B.Tech in Electronics and Telecommunication Engineering from National Institute of Technology, Raipur, Chhattisgarh, India in 2008 and M.Tech & Ph.D. with specialization in Systems Engineering (Wireless Communication), Department of Electrical Engineering from Indian Institute of Technology (Banaras Hindu University), Varanasi, Uttar Pradesh, India in 2011 & 2016 respectively. Previously, he was the former research fellow in Mobile Computing and Broadband Networking Lab (MBL), Department of Computer Science at National Chiao Tung University (NCTU), Hsinchu, Taiwan (Republic of China), and IIT Jodhpur, India. Currently, he is working as Assistant Professor in the Department of Electronics and Communication Engineering, Shri Mata Vaishno Devi University, Kakryal, Katra, (J&K), India. His research interest includes Ad-hoc Networks, SDN, and FSO etc. He has published many papers in the International/National journals and prestigious Conference Proceedings. He has served as coordinator, organizing committee members, session chair of the various workshop, seminar, and conferences.

Research Profile

Research Publications:

1. **Sachin Kumar Gupta,** Manoj Yadav and R. K. Saket, "*An Analytical Study of Various Ad-hoc Network Routing Protocols Under Certain Parameters using Qualnet-7.1,*" IEEE African Journal of

Computing & ICTs (Computer Chapter of the Nigeria Section, IEEE Inc, New York, USA), ISSN online: 2006-1781, Vol. 8, No. 3, pp. 51-58, 2015.

2. **Sachin Kumar Gupta,** Manoj Yadav and R. K. Saket, *"Mathematical Analysis for Stability Based Routing in Ad-hoc Networks",* Special issue on Science and Technology, Prajna Research Journal, BHU, Varanasi, India, Vol. 60, No. 2, ISSN: 0554-9884, pp. 187-196, 2014-15.

3. **Sachin Kumar Gupta**, Rohit Sharma and R. K. Saket, *"Effect of variation in active route timeout and delete period constant on the performance of AODV protocol",* International Journal of Mobile Communications (IJMC), England, Inderscience publishers (UK), ISSN online: 1741-5217, ISSN print: 1470-949X, pp. 177-191, Vol. 12, No. 2, 2014 (SSCI Journal I.F. =1.221).

4. Sudhir Bhaskar, **Sachin Kumar Gupta**, "Bandwidth improvement of microstrip patch antenna using h-shaped patch", International Journal of Engineering Research and Applications (IJERA), Vol. 2, No. 1., pp. 334-338, 2012.

5. Irfan Quazi, **Sachin Kumar Gupta,** Rajendra Prasad, "Pre-paid Energy Meter based on AVR Microcontroller", International Journal of Engineering Research and Applications (IJERA), Vol. 1, No. 4., pp. 1879-1884, 2011.

6. **Sachin Kumar Gupta** and R. K. Saket, *"Routing Protocols in Mobile Ad-hoc Networks",* Special issue on Electronics, Information and Communication Engineering, International Journal of Computer Applications (IJCA), New York, USA, ISBN: 978-93-80865-63-9, pp. 24-27, Vol. ICEICE, Issue 4, 2011, (I.F.=0.84).

7. **Sachin Kumar Gupta** and R. K. Saket, *"Performance metric comparison of AODV and DSDV routing protocols in MANETs using NS-2",* International Journal of Research and Reviews in Applied Sciences, **ISSN: 2076-734X, EISSN: 2076-7366, pp. 339-350, Vol. 7, No. 3, 2011.**

Books Publications:

1. **Smart Innovation, Systems and Technologies (SIST)**, Vol. 50, 2016, pp. 419-427. DOI 10.1007/978-3-319-30933-0_42
   Publisher: © Springer International Publishing Switzerland 2016

   Sachin Kumar Gupta and R.K. Saket, "Observation of AODV Routing Protocol's Performance at Variation in ART Value for Various Node's Mobility"

Conference Publications:
Out Side India:

1. **Sachin Kumar Gupta,** S. H. Alsamhi, R. K. Saket*, "Optimal Relation between ART and Mobility & Transmission Range at Default QualNet & Calculated Transmission Powers,"* 6th International Conference on Advances in Engineering Sciences and Applied Mathematics (ICAESAM), International Institute of Engineers, Kuala Lumpur, (Malaysia), Dec 2016.

2. S. H. Alsamhi, **Sachin Kumar Gapta**, N. S. Rajput, R. K. Saket, *"Network Architectures Exploiting Multiple Tethered Balloon Constellations for Coverage Extension,"* 6th International Conference on Advances in Engineering Sciences and Applied Mathematics (ICAESAM), International Institute of Engineers, Kuala Lumpur, (Malaysia), Dec 2016.

3. Anupam Sahu, **Sachin Kumar Gupta,** Vijay Rao Kumbhare, *"Effect of ASE on Raman Gain in 800nm band,"* 6th International Conference on Advances in Engineering Sciences and Applied

Mathematics (ICAESAM), International Institute of Engineers (IIE), Kuala Lumpur, (Malaysia), Dec 2016.

4. **Sachin Kumar Gupta** and R. K. Saket, *"Effect of ART, DPC and ANs on the Performance of AODV Routing,"* 10th International Conference on Industrial and Information Systems (ICIIS), IEEE, Faculty of Engineering, University of Peradeniya, Sri Lanka, pp.77-81, Dec 2015.

5. **Sachin Kumar Gupta,** Manoj Yadav and R. K. Saket, *"An Automaton Model for Stable Routing in Ad-hoc Network based on Two State CTMC,"* European Modelling Symposium (EMS), IEEE Computer Society, Manchester, United Kingdom, pp. 555-559, Nov 2013.

Within India:

1. Essar Farooq, Anupam Sahu, and **Sachin Kumar Gupta**, "BER Analysis of OOK and DPSK Schemes in Gamma-Gamma Turbulence Channel with PIN and APD Photodetector", IEEE 8th International Conference on Computing Communication and Networking Technologies (ICCCNT), IIT Delhi, India, 3-5 July, 2017.

2. Essar Farooq, Anupam Sahu, and **Sachin Kumar Gupta**, "Survey on FSO Communication System: Limitations and Enhancement Techniques", International Conference on Optical & Wireless Technologies (OWT), Springer proceeding, MNIT Jaipur, India, March 18-19, 2017.

3. **Sachin Kumar Gupta,** S. H. Alsamhi and R. K. Saket, *"Comparative Performance Analysis of AODV for CBR & VBR Traffic under Influence of ART & DPC"*, IEEE 11th International Conference on Industrial and Information Systems (ICIIS), IIT Roorkee, India, Dec-2016.

4. S. H. Alsamhi, **Sachin Kumar Gupta,** and N. S. Rajput, *"Performance Evaluation of Broadband Service Delivery via Tethered Balloon Technology"*, IEEE 11th International Conference on Industrial and Information Systems (ICIIS), IIT Roorkee, India, Dec-2016.

5. **Sachin Kumar Gupta** and R. K. Saket, *"Analyzing the Outcome of Route Maintenance Parameters with VBR Traffic on Stability of AODV Routing for a Realistic Scenario in MANET using QualNet"*, International Conference on Telecommunication Technology and Management, Bharti School of Telecommunication Technology & Management, IIT Delhi, published by Emerald, India, Apr 2015.

6. Manoj Yadav, **Sachin Kumar Gupta** and R. K. Saket, *"Multi-Hop Wireless Ad-Hoc Network Routing Protocols- a Comparative Study of DSDV, TORA, DSR and AODV"*, IEEE International Conference: Electrical, Electronics, Signals, Communication & Optimization (EESCO)', Visakhapatnam, pp. 1-5, Jan 2015.

7. Manoj Yadav, **Sachin Kumar Gupta** and R. K. Saket, *"Experimental Security Analysis for SAODV vs SZRP in Ad-hoc Networks,"* 16th International Conference on Computational Intelligence and Communication Networks, IEEE Computer Society, Bhopal, pp. 819-823, Nov. 2014.

8. **Sachin Kumar Gupta**, Rohit Sharma, R. K. Saket and Ravi Prakash Diwedi, *"Simulation and analysis of reactive protocol around default values of route maintenance parameters via NS-3"*, International Conference on Information Systems and Computer Networks, Mathura, pp. 155-160, Mar 2013.

9. **Sachin Kumar Gupta** and R. K. Saket, *"Communication between the mobile nodes using DSDV and AODV Routing Protocols in MANETs using NS-2",* National Conference on Advances in Electrical & Electronics Engineering, Indore, pp. 43-45, Feb 2011.

Research Supervised: (Completed (02) + Ongoing (02))

S. No.	Year	Role	Research Topic	Status
01	2018	Supervisor	Capacity enhancement in heterogeneous network by efficient deployment of UAVS	Ongoing
02	2018	Supervisor	Optimally placed UAV aided: QOS analysis of random ad hoc network	Ongoing
03	2017	Supervisor	Comparative performance analysis of FSO SISO & MIMO link under different modulation schemes & photo detectors	Completed
04	2016	Co-supervisor	Physical Layer Security in Next Generation Networks	Completed