

Dr. Tanya Singh
Professor (CSE),ASET
Dy. Director(Academics),AUUP

tsingh2@amity.edu
prof.tanyasingh@gmail.com

Ph.No.: 91- 0120-4392412



With wide experience of over 20 years in the field of Teaching, Research, Consultancy & Planning and Development in Education and Operational role outs in Academics, she has emerged as Technical Evangelist for Networking, Cyber Security and IoT..

Prima motivation is teaching and learning new technologies, assist and develop the knowledge amongst students, instructors by encouraging critical thinking, implementation and ability to convert technological innovative ideas into social and sustainable innovation.:

- Awarded by Cisco Inc. for 10 years of active participation and service in the Cisco Networking Academy Program in the year 2018 and 2019 again.
- Awarded “Instructor Excellence Award” from Cisco Networking Academy in 2018.
- Awarded “Instructor Expert Advanced Award” from Cisco Inc. in 2019.
- Awarded by Cisco Inc. for contributing to the Skill Development Program in Rajasthan, India in the year 2016.
- Expertise at ISO 9001:2008 /ISO 14001:2004 – Certificate of Appreciation for Contribution towards building Quality by Amity University in 2008.
- Serving Member for Bureau of Indian Standards – LITD 14 (Software and Systems Development)
- Serving member for Bureau of Indian Standards – LITD 27 (Internet of Things)/LITD – 30 (Artificial Intelligence)
- Expertise at Outcome Based Education/Implementation of Outcome Assessment Plan

PROFESSIONAL QUALIFICATIONS:

- Ph.D. (IT & Engineering)** from Banasthali University on “**An Improved Real Time Automated Intrusion Response System for Web Interface**”
- M Tech. In Information Technology** from University School of Information Technology, Guru Gobind Singh Indraprastha University(**USIT,GGSIPU**), Kashmere Gate with First Division .
- B.E. in Electronics** from M.I.T., Dr. Babasaheb Ambedkar University, with First Division with Distinction. *Ranked IInd in the University in 1999.*
- ISO Lead Auditor ISO 9001: 2008
- ISO Lead Auditor ISO 14001: 2004
- ISO Lead Auditor ISO 50001: 2011

- Certified Cisco Network Academy Instructor Trainer
- Cisco Certified Network Associate Routing and Switching
 - o Cisco ID No.: CSCO 12748153 (recertified)
- Cisco Certified IT Essentials Trainer
- Consultant Bureau of Indian Standards – LITD 14 (Software and Systems Development)

PRESENT DESIGNATION:

- Professor (CSE)/Dy. Director(Academics) – Amity School of Engineering & Technology, AUUP
- Consultant to Bureau of Indian Standard– LITD 14 – Software and Systems Engineering – To give comments on ISO/IEC/JTC 1 for voting on standardization
- Member, Bureau of Indian Standards – LITD 27 – Internet of Things and Related Technologies
- Member, Bureau of Indian Standards- LITD 30 – Artificial Intelligence
- Member Secretary, IETE Subcenter, NOIDA (June 2014-June 2016)

Project completed:

Project titled “Perception and Attitudes towards Robots and Artificial Intelligence” starting from 4 Sep 2019 and completed by July 2020. Project cost was Rs. 4,27,500/- and sponsored by INTEL Technology Inc.

Courses Taught:

- a) **Web Intelligence and Big Data Analytics – M.Tech**
- b) **Exploring the Networks**
- c) **Routing and Switching Essentials**
- d) **Digital Electronics and Computer Architecture**

Awards & Invited Speaker:

- Invited Speaker for 2nd Short Term Course in Academic Leadership and Resources Management through online mode organized by HRDC-JNU: January 8, 2021 on Big Data Analytics and Education Invited Speaker for OCF India in collaboration with NASSCOM Centre of Excellence IoT & AI is organizing OCF India Virtual Summit 2020 on 10-Oct-2020.
- Invited Speaker for Digital India Seminar 19-20 Dec 2020 organized by IETE Noida center on “IoT Interopibility and its Challenges”.
- Invited Speaker for “India Open Technology Conclave”, 26th September’2019 on “Role of 5G and Data Analytics in Education Sector” organized by Department of Telecommunication, Ministry of Communications, Government of India and MEITY.

- Invited Speaker for “World Standards Day” on quality of Video organized by Bureau of Standards & IEC on 14th October’2019 at Faridabad.
- Invited Speaker for “1st Refresher Course in E-Learning & E-Governance (Interdisciplinary) on 26th July, 2018” organized by UGC-HRD, JNU
- Appreciation Award given by the Institution of Electronics and Telecommunication Engineers (IETE) for “Innovation on Research” on 3rd Innovation Meet & Industry Meet held on 1st September ‘2018
- Appreciation Award given by the Institution of Electronics and Telecommunication Engineers (IETE) for delivering a lecture on the “Importance of 5G in global communication” on 2nd Innovation Meet held on 29th August’2017
- Recognition Award by Amity University as a chair for the 2nd International Conference on Contemporary Computing and Informatics.
- Appreciation award given by Ms. Sandy Walsh, CISCO, Social Innovation Group, Asia Pacific and Japan jointly with Mr. Krishna Kaul, IAS, Commissioner- DSEE, cum MD, Skill Development of India, for successfully delivering “IT Essentials Training and CCENT training” to Government ITI Instructors.
- Awarded by Cisco in 2013 for Cisco 5 Years of active instruction and Service
- Appreciation Award given by ACM for Delivering a Lecture on “Role of ICT in Future Education” February’ 2016
- Certificate of Appreciation, Speaker, Cisco Networking Academy Conference, 2013 & 2014
- Certificate of Appreciation, Organizing Committee, International Conference On Reliability, Infocom Technologies and Optimization (ICRITO) 2014 & 2015
- Certificate of Appreciation, Web Designing and Coordination Committee, AYF’2014
- Certificate of Appreciation, Web Designing and Coordination Committee AFY’2015

CONSULTANCY/CORPORATE TRAININGS HANDLED:

- Two Weeks Capacity Development Training Programme for Directors of Professional Development Centers (PDC) of various Universities of Afghanistan on Curriculum Innovation and Outcome Based Education from 25th August’ to 12th September’2019.
- Internal Workshops and FDP on “Outcome Based Education and its Implementation” for Amity University
- IT Essentials Training and CCENT training to “Government ITI Instructors for Skill Development of India, Rajasthan Government – 4th July- 8th July’2016.
- 12 Instructor Trainings for Cisco Routing & Switching Essentials across the year.
- Delivered a lecture on “Academy Support Centre and New Working Model” in Cisco Networking Academy Conference and Instructor Retooling workshop held on 21st November’2014
- Delivered a lecture on “Low Power Beam Division Antenna Successful Deployment of M2M using 5G Technology” in IETE Subcentre dated 27th August’2016.

- Speaker and Jury Member, Dr. A.P.J. Abdul Kalam Technical, Literary and Management Festival, AKTU held on 16th September'2016
- Management Development Programme for Cisco Trainings for Engineers of Emerson, Sep 2012-Dec 2012
- Cisco Module Training for Indian Navy, June 2010 and many more..

PATENT / COPYRIGHT FILED AND COMPLETED:

01: Improved Design Of Rake Receiver for 3G Wireless Applications: Status: Complete

02: Improved Real Time Analysis for Securing Web Server: Status: Complete 03: A system and method of Deep Packet Detection Engine for Securing Data in Internet of Things (IoT)

04: Copyright: Hardware Implementation of Pattern Matching Algorithm (Aho-Corasic Cache Algorithm) to Detect Malicious Packets Using Field Programmable Gate Array (FPGA): In Process

INVITED SPEAKER/ SESSION CHAIR:

- Delivered a lecture on “E-learning: Transforming Higher Education” as part of UGC lecture series, held at Jawaher Lal Nehru University (JNU), New Delhi.
- Delivered a lecture on “Role and Importance of IQAC” for QAE auditors in the University in 2016
- Delivered a Lecture on “Role of ICT in Future Education” in 2nd ACM International Conference on Information and Communication Technology for competitive strategies, ICTCS held on March 4-5, 2016 in Udaipur.
- Session Chair at “Role of ICT in Future Education” in ACM International Conference on ICT, Udaipur, held on March 4-5, 2016 in Udaipur
- Session Chair at IEEE 2nd International Conference on Contemporary Computing and Informatics held on December 14-17'2016.
- Delivered a lecture on “Academy Support Centre and New Working Model” in Cisco Networking Academy Conference and Instructor Retooling workshop held on 21st November'2014
- Delivered a lecture on “Low Power Beam Division Antenna Successful Deployment of M2M using 5G Technology” in IETE Subcentre dated 27th August'2016.
- Speaker and Jury Member, Dr. A.P.J. Abdul Kalam Technical, Literary and Management Festival, AKTU held on 16th September'2016

DEVELOPING AUDIO VIDEO MATERIAL FOR TEACHING

Video recording for PAN AFRICAN countries

- 1) T. Singh, Writer and Presenter, *Digital Electronics* [Videorecording]. Amity Directorate of Distance and Online Education, 2014

- 2) T. Singh, Writer and Presenter, *Computer Organization and Architecture* [Videorecording]. Amity Directorate of Distance and Online Education, 2015

BOOK PUBLISHED:

1) Adapted the 3rd edition “Wireless communication - Principles and Practices” written by Theodore Rappaport which has been released in India, Bangladesh, Pakistan, Nepal and Adjoining countries by the prestigious publishing house Pearson Education; ISBN: 978-81-317-3186-4

The editorial team has sent appraisal for the work done and my name is included in the Preface of the Book.

2) Published a book on “LAN Switching and Wireless” released for Pan- African Students

3) Published a book on “Optical Technologies and Networks” released for Pan- African Students

PUBLICATIONS till date:

Springer Book Chapter:

- a. Published a chapter “Security Challenges and Solutions of IoT ecosystem”, Springer, Advances in Intelligent Systems and Computing, 2019, 933, pp.259-270
- b. Published a chapter, “Machine Translation and Divergence Study for English -Maithili” Springer, Advances in Intelligent Systems and Computing, 2019, 933, pp.259-270
- c. Published a chapter on “The Cost-Benefit Analysis of Vulnerability of Webserver through Investigation”, ERCICA, Springer India, 2016, Vol.2, pp . 585-597
- d. Published a chapter on “Securing Internet of Things in 5G using Audio Steganography”, Book Title “Smart Trends in Information Technology and Computer Communication”, Springer Nature Singapore Pvt. Ltd

International Journals:

- Published a paper on “Machine Translation for Less-Resourced Languages - Data Sparsity and Divergence for English-Maithili”, Solid State Technology, Vol. 63, Sr. 5, pp2408-2421, October 2020, (Indexed by Scopus & E-sci)
- Published a paper on “MT Embedded E-Learning in India - Challenges for NLP/AI”, International Journal of Engineering and Advanced Technology, Vol. 9, No.1, pp2577-2582, October 2019, (Indexed by Scopus & E-sci)
- Published a paper on “Securing Communication in IoT Ecosystem Using Cryptographic Algorithms”, International Journal of Engineering and Advanced Technology, Vol. 9, No.1,

pp7258-7268, October 2019, (Indexed by Scopus & E-sci)

- Published a paper on, “Divergence Identification & Handling for English-Maithili Machine Translation”, Workshop on Machine Translation System in Indian Language (MTIL2017), Amrita University, Coimbatore, September 7-6, 2017, Journal of Intelligence Systems (Indexed by Scopus & E-sci)
- Published a paper on “Study and Capacity evaluation of SISO, MISO and MIMO RF Wireless Communication System”, in International Journal of Engineering Trends and Technology, Vol. 9 no. 9, March’2014, ISSN: 2231-5381 , DBLP ,arXiv:1403/7774, pp 436-440.
- Published a paper on, “Software as a Service Security : Challenges and Solutions”, in International Journal of Scientific Research and Education , IJSRE, Vol. 2, No.6, June’2014, pp 927-940
- Published a paper on, “A comparative Study of Dynamic Back- up Router Routing Protocol and Dynamic Source Routing in Mobile Ad- Hoc Networks”, in International Journal of Engineering Research and Technology, Vol. 3, issue 4, April’2014, ISSN 2278-0181, pp 2485-2488
- Published a paper in “A survey on Security Issue in Mobile Ad- Hoc Networks and Solutions” in International Journal of Computer Science and Education, Vol 2 , issue 3, March’2014, ISSN: 2347-2693, Impact Factor:1.297, pp 71-75
- Published a paper on “Vulnerability Assessment of Web Servers using Honeypots: Perspective, Ethical Issues, Legal Implications” in International Journal Of Computational Applications, Vol.72, No.22, 2012
<http://www.ijcaonline.org/archives/volume72/number22>
- Published a paper on “Intrusion Detection and Response for web Interface using Honeypots” in International Journal of Computational Intelligence and Information Security (IJCIIS), Vol. 2 No. 1 January 2011, pp 55 -60
- Published a paper on “Multilevel Defense Model To Secure Wireless LAN” in International Journal of Science and Technology (IJSAT), Vol. 2, Issue 3, March-May 2011

International Conference:

5. Paper titled “Framework for securing IoT ecosystem using block chain: Use cases suggesting theoretical Architecture” accepted for publication in ICT4SD -2020

6. Published a paper titled “Security Challenges and solutions of IoT Ecosystem” in ICT4SD - 2018 DoI:10.1007/978-981-13-7166-0_25
- - Published a paper titled “Threats Paradigm in IoT Ecosystem” in 7th IEEE International Conference on Reliability, Infocom Technologies and. Optimization (ICRITO 2018) ICRITO’2018 during August 29-31, 2018, 8748786, pp.775-778
 - Published a paper titled, “English-Maithili Machine Translation and Divergence” in 7th IEEE International Conference on Reliability, Infocom Technologies and. Optimization (ICRITO 2018) ICRITO’2018 during August 29-31, 2018
 - Ritu Nidhi, Tanya Singh, “Resource Creation for English-Maithili Machine Translation - A Divergence Perspective”, 2nd International Research Symposium (IRSUWU2018), Srilanka, February 1-2, 2018, Journal of Technology and Value Addition
 - Ritu Nidhi, Tanya Singh, “Machine Translation for Less Resourced Languages - A case of English-Maithili pair”, International Conference on Emerging Trends in Science, Engineering & Management (*ETSEM 2018*), February 24-25, 2018, MITRC Journal of Science, Engineering & Management, ISBN-978-93-5291-525-5
 - Ritu Nidhi, Tanya Singh, “Machine Translation and Divergence Study for English-Maithili”, 3rd International Conference on ICT for Sustainable Development (ICT4SD), August 30-31, 2018, *Advances in Intelligent Systems and Computing, Springer*. ISBN Number - 2194-5357
 - Published a paper titled “Securing Internet of Things in 5G using Audio Steganography” accepted for Oral Presentation in Springer First International Conference on Smart Trends for Information Technology and Computer Communications (SmartCom-2016) held at Jaipur, Rajasthan on 6th -7th August’2016.
 - Paper titled “5G and Internet of Things (IoT) for Unmanned Vehicle Operation System (UVOS)” accepted in 5th IEEE International Conference on Reliability, Infocom Technologies and. Optimization (ICRITO 2016) ICRITO’2016.
 - Published a paper “Intrusion Detection System Using Genetic Algorithm for Cloud”
in 2nd ACM International Conference on Information and Communication Technology for competitive strategies held on March 4-5, 2016 in Udaipur.
 - Published a paper on “M-Commerce: Evaluation of the Technology Drawbacks” in 4th IEEE International Conference on Reliability, Infocomm Technologies and Optimization held on 2nd -4th September’2015. The paper is published in IEEE Digital Library.

- Published a paper on “A Heterogeneous Wireless Network integrating Smartphones, wlans and VANET to enhance On-road Surveillance and Security” in 4th IEEE International Conference on Reliability, Infocomm Technologies and Optimization held on 2nd -4th September’2015. The paper is published in IEEE Digital Library.
- Published a paper on “Securing Networks using Quantum Cryptography” in 4th IEEE International Conference on Reliability, Infocomm Technologies and Optimization held on 2nd -4th September’2015. The paper is published in IEEE Digital Library.
- Published a paper on “Study of Various Strings Matching Algorithm Suitable for Efficient Hardware Implementation of Intrusion Detection System” in 7th International Conference on Advanced Computing and Communication Technologies (ICACCT – 2013). The International Conference was supported by CSI, IEEE Delhi Section & Inderscience, 2013.
- Published a paper on “Mitigating XSS Attacks”, in Ist International Conference on International Conference on Reliability, Infocomm Technologies and Optimization, Jan 2013
- Published a paper on “Automated Multilevel Defense Model to Investigate Packets for Web Interface” in 9th IEEE International Conference on Wireless And Optical Communication Networks and Next Generation Networks, WOCN’2012 held on 20-22nd September’2012 in IIT, Indore. The paper is published by IEEE digital Library and is indexed by EI Compendex and Engineering Index.
- Published a paper on “Multilevel Defense Model to Secure Large Organization Using Effective Network Management strategy and Honeypots” in 3rd International Conference on Future Computer and Communication (ICFCC 2011), 3rd – 5th June 2011. It is published by ASME digital Library and is indexed by EI Compendex and Thompson ISI Proceedings. *Had been invited as a Keynote Speaker.*
- Published a paper on the topic”Robust Defense Mechanism for Securing Enterprise Network ” in 7th International conference on Information Science Technology and Management(CISTM’09) held in MDI, Gurgaon on July 13 -15’2009.
- Published a paper on the topic “*Speech Recognition using Cluster Monitoring Scheme and Neural Networks*” for the Invited Session “Intelligent Modeling and Control of Nonlinear systems at the 4th International conference on Computing, Communications and Control Technologies (CCCT’06)” held in Orlando, USA, on July 20- 23,2006.
- Presented a paper “*Roadmap to Intelligent Organization through ILM*” in AIMS International Conference, at IIM, Calcutta (28-31 December,2004)

National Conference:

- Published a paper on "Intrusion detection and Response using honeypots" at National Conference and Workshop on "Recent Advances in Modern Communication Systems and Nanotechnology" NCNCN 2011 organized by Centre of Converging Technologies, University Of Rajasthan, Jaipur in association with IEEE, State DST, IETE, DRDO, CSIR.
- Published a paper on "Increasing Performance of Rake Receivers using Turbo Codes and by Reducing Hardware" at proceedings of *Mobile Comp – 2008* organized by Bharti Vidyapeeth, Delhi.
- Published a paper on "Security Issues of Wireless LAN" at All India Conference Organized by PDM College of Engineering in Collaboration with IEEE-IMS/EMBS(Delhi) on 19-20 February, 2008.
- Published a paper "Creating Intelligent Organization" in BIMC, April, 2005 held at IMT, Ghaziabad.
- Published a paper on "Knowledge Management in BPO Industry in INDIA" in Council of Scientific and Industrial Research (CSIR) held on 6-7 December '04
- Published a paper on the topic "Advanced Signal Processing Using RAKE Receiver" at the National Conference on Recent Trends in Electronics and Information Technology in collaboration with IEEE, held at SRES College of Engineering, KoparGaon on 28-29 July, 2006

Seminar & Workshops:

- Done a survey report on the documentation process of *Quality Standards and presented in SIT, GGSIPU*
- Presented a paper on "Machine learning through Decision Tree" in a seminar in SIT, GGSIPU.

REVIEWED:

- Reviewed the book on Digital Electronics and send the comments to Pearson Education.
- Reviewed the book on "System Analysis and Design" and send the comments to Tata McGraw Hill.

Member: a) IASCIT (International Association of Computer Science and Technology)

- b) IETE**
- c) ISOC**
- d) IEEE**