Dr. Krishan Kumar Saluja

Professor
Department of Information Technology
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Education

- Ph.D., Department of Electronics & Computer Engineering, Indian Institute of Technology (IIT), Roorkee, March, 2008.

  Thesis Entitled "Protection from Distributed Denial-of-Service DDoS attacks in ISP Domain" under supervision of Prof. (Dr.) R. C.Joshi and Prof. (Dr.) Kuldip Singh.

- M.S., Department of Computer Science and Engineering, Birla Institute of Technology and Science (BITS), Pilani, Rajasthan, 2001.

- B.Tech. Department of Computer Science & Engineering, National Institute of Technology (NIT), Hamirpur, Himachal Pradesh, July 1995.

Research Interests:

My general research interests are in the areas of Network Security and Computer Networks. Specific research interests include Intrusion Detection, Protection from Internet Attacks, Web performance, Network architecture/protocols, Network measurement/modeling and Software Defined Networks.

Professional Experience:

- 8th September, 2016 - Current: Professor, Department of Information Technology, University Institute of Engineering & Technology, Panjab University, Chandigarh.

- 27th December, 2012 – 7th September, 2016: Associate Professor, Department. of Computer Science & Engineering (CSE), Shaheed Bhagat Singh State Technical Campus, Ferozepur (SBSSTC).

- 3rd January,2012 – 26th December, 2012: Associate Professor, Punjab Technical University (PTU), Kapurthala.

- 1st July, 2009 – 2nd January, 2012: Associate Professor, Department of CSE, SBSSTC, Ferozepur.

- 1st August, 2006 – 31st June, 2009: Assistant Professor, Department of CSE, SBSSTC, Ferozepur.

- 25th July, 2004 – 25th July, 2007: Research fellow, Department. of Electronics & Computer Engineering , Indian Institute of Technology (IIT), Roorkee.

- 1st August, 2001 – 31st July, 2006: Senior Lecturer, Department of CSE, SBSSTC, Ferozepur.

- 1st August, 1996 – 31st July, 2001: Lecturer, Department of CSE, SBSSTC, Ferozepur.

- 21st December, 1995 – 31st July, 1996: Lecturer, Department of Computer application, Government. Polytechnic, Ferozepur.

Teaching & Academic

Subjects Taught:

S.No.	Name of Subject	Program	Level	No. of times taught
1.	Data Communication	B.Tech. CSE	Undergraduate	04
2.	Data Structures	B.Tech. CSE	Undergraduate	02
3.	Object Oriented Programming using C++	B.Tech. CSE	Undergraduate	04
4.	Operating Systems	B.Tech. CSE	Undergraduate	01
5.	System Programming	B.Tech. CSE	Undergraduate	01
6.	Programming Using C	B.Tech. CSE	Undergraduate	01
7.	Programming Languages	B.Tech. CSE	Undergraduate	01
8.	RDBMS-I	B.Tech. CSE	Undergraduate	03
9.	RDBMS-II	B.Tech. CSE	Undergraduate	02
10.	Graphics User Interface	B.Tech. CSE	Undergraduate	01
11.	Design & Analysis of algorithms	B.Tech. CSE	Undergraduate	01
12.	Software Engineering	B.Tech. CSE	Undergraduate	01
13.	Workshop on Computers for Management	MBA	Postgraduate	01
14.	Network Security	M.Tech. CSE	Postgraduate	06
15.	Advanced Database Management System	M.Tech. CSE	Postgraduate	02
16.	Object Oriented Analysis & Design Using UML	M.Tech. CSE	Postgraduate	05
17.	Advanced Computer Networks	M.Tech. Networking System	Postgraduate	01

18.	Network Security	M.Tech. Networking System	Postgraduate	01
19.	Advanced Object Oriented Programming using C++	M.Tech. Networking System	Postgraduate	01
20.	Simulation of Computer Networks using NS-2	M.Tech. Networking System	Postgraduate	01
21.	Information Security	M.Tech. CSE	Postgraduate	01
22.	Research Methodology	M.Tech. CSE	Postgraduate	01

Books Published:

S. No.	Name	Co-Authors, if any	Year	Publisher	ISBN no.
1	Fundamentals of Computer Programming and Information Technology	Gurvinder Singh	2007	Kalyani Publishers	978-81-272-3953-4
2	Basics of Information Technology	Vipin Arora	2011	Eagle Publishers	………
3	Feature Selection for Intrusion Detection Systems	Dr. Gulshan Kumar & Mr. Yogesh Kumar	2014	Lambert Academic Publishing	978-3-659-51510-1
4	Intrusion Detection using Aritficial Intelligence based Ensembles	Dr. Gulshan Kumar & Mr. Jabarweer Singh	2014	Lambert Academic Publishing	978-3-8484-4869-2

Technical proficiency:

- **Programming languages** : FORTRAN, Turbo Pascal, ANSI C, Turbo C++, Perl, tcl
- **Front ends** : Visual Basic, Power Builder
- **Back ends** : SQL server, Access
- **Web** : VB.Net, PHP
- **Simulators** : Network Simulator NS-2, MATLAB
- **Networking** : LAN/WAN Designing, Configuration and troubleshooting on CISCO products
- **Operating systems** : Windows variants, Linux
- **Analysis Tools** : Gnuplot, xgraph, Statistica, Waka etc.
- **IDS** : Snort
- **Open Source Technologies** : Linux, NS-2

Professional Trainings:

Course	Institute/Industry	Final Exam Score	Completion date
CCNA 1: Networking Basics	Temasek Polytechnic, Singapore	91	24-08-1999
CCNA 2: Router and Routing Basics	Temasek Polytechnic, Singapore	100	29-08-1999
CCNA 3: Switching Basics and Intermediate Routing	International Institute of Technology, Hyderabad (IIITH)	95	18-01-2001
CCNA 4: WAN Technologies	International Institute of Technology, Hyderabad (IIITH)	100	24-01-2001
Botnet Analysis	infySEC, Chennai		10-12 July, 2013

Seminars/ Short Term Courses/Summer Schools/Winter Schools attended:

S. No.	From	To	Institute	Sponsored By	Name Of Course
1	29th January, 1996	31st January, 1996	NITTTR Chandigarh		Orientation Programme For Newly Recruited Teachers.
2	24th June,2002	5th July, 2002	Bhopal Engineering College, Bhopal (M.P)	AICTE	Data Mining and its Applications in supporting Very Large Databases
3	15th July, 2002	26th July, 2002	T.T.T.I Chandigarh	AICTE	Induction Program for faculty of Engineering Colleges
4	16th December, 2002	27th December, 2002	T.T.T.I Chandigarh	AICTE	Database Systems
5	19th July, 2004	23rd July, 2004	S.B.S.C.E.T. Ferozepur	AICTE/ISTE	Inculcating and Developing entrepreneurial attitude (need of 21st century)
6	6th June, 2005	10th June, 2005	I.I.T. Roorkee	QIP Center, I.I.T. Roorkee	Remote Sensing and GIS Applications with special emphasis to infrastructure planning
7	4th July,	15th July,	I.I.T. Roorkee	QIP Center,	Mathematical modelling

	2005	2005		I.I.T. Roorkee	of real life problems
8	8th December, 2005	9th December, 2005	I.I.T. Roorkee	Alcatel	Workshop on broadband technologies
9	4th December, 2006	5th December, 2006	Department of Information Technology, SRM University, Chennai	Self-Sponsored	Pre-conference ISCF 2006 Workshop
10	21st July, 2008	1st August, 2008	NITTR, Chandigarh	AICTE	Open Source Technologies and Linux
11	7th June, 2009	19th June, 2009	C-DAC Hyderabad	AICTE	Network Programming and Security
12	21st June, 2010	25th June, 2010	NITTR Chandigarh	AICTE	Advances in Soft Computing and Applications
13	4th July, 2011	15th July, 2011	S.B.S.C.E.T. Ferozepur	AICTE	Intelligent computation Techniques
14	18th July, 2011	22nd July, 2011	NITTR, Chandigarh		Faculty Development: Planning and management
15	26th November, 2012	30th November, 2012	S.B.S.S.T.C. Ferozepur	TEQIP	Applied Soft Computing
16	6th May, 2013	17th May, 2013	S.B.S.S.T.C. Ferozepur	AICTE-TEQIP	Nature Inspired Computational Techniques
17	10th July, 2013	12th July, 2013	InfySEC, Chennai	TEQIP	Botnet Analysis
18	26th August, 2013	30th August, 2013	S.B.S.S.T.C. Ferozepur in collaboration with Arcadian Technocrats, IT Park Chandigarh	TEQIP	New computing and emerging technologies in the ICT
19	2nd September, 2013	6th September, 2013	S.B.S.C.E.T. Ferozepur	TEQIP	Soft Skills for Technical Teachers
20	9th September, 2013	13th September, 2013	NITTR, Chandigarh	TEQIP	Managerial Skills
21	16th September, 2013	20th September, 2013	SBSSTC, Ferozepur	TEQIP	Role of Industrial Engineering and Design in Present Scenario

22	24th September, 2013	28th September, 2013	NPC,Udaipur	TEQIP	Effective stress And Time Management
23	30th September, 2013	5th October,2013	SBSSTC, Ferozepur	TEQIP	Futuristic Materials
24	28th October,2013	1st November, 2013	NITTTR,Chandigarh	TEQIP	Cloud Computing
25	25th November, 2013	29th November, 2013	SBSSTC,Ferozepur	TEQIP	Modeling and Simulation in advanced MATLAB Environment

Faculty Development Program(s)/ Workshops Organized:

S.No.	Name of the Course	Duration	Sponsored by
1.	New computing and emerging technologies in the ICT	26th August, 2013 to 30th August, 2013	TEQIP
2.	Hands on training of QUALNET Simulator		Nihon Communication Solutions Pvt. Ltd., Bangalore
3.	Ethical Hacking Workshop	16th Sep,2012 to 20th Sep., 2012	PTU, Kapurthala

Expert talks in National/International Workshop(s):

1. Delivered Keynote address in International Conference on Interdisciplinary Research & Technological Developments, 1st November, 2014 at ICSSR North-Western Regional Centre, Panjab University, sector-14, Chandigarh.

2. Delivered expert lecture on"Object Oriented Concepts" in workshop on "IT and Personality Development" held at LR DAV College, Jagraonon February 4, 2011.

Membership of University / Institute Bodies:

S. No.	Name
1.	Member PTU Board of Studies for B.Tech. CSE & IT, BCA, MCA Courses etc.
2.	Member of various district administration committees for recruitments, on line tests and office automation
3.	Member Guru Kanshi University Board of Studies for CSE
4.	External Expert Member in ERP Committee of PTU, Jalandhar
5.	Member of RDC in CSE of PTU
6.	Member Board of Studies of GNDEC in IT department
7.	Technical expert in TEQIP purchase and inspection committee

8.	Expert for ERP Implementation of NIT Jalandhar and IKGPTU, Jalandhar

Membership of Professional Bodies:

S. No.	Name
1.	Life Member of Indian Society for Technical Education (ISTE)-LM 31005 since 2001
2.	IEEE Student Member (80629795)
3.	Member of IAENG International Association of Engineers (138617)
4.	Member of Society of Digital Information & Wireless Communication (SDIWC) (6622)
5.	Individual member of Computer Science Teachers Association (CSTA) (3011816)
6.	Global member of Internet Society (438478)

Administrative Responsibilities held:

S. No.	From	To	Position Held	Contribution
1.	March, 2015	April, 2016	Registrar, SBSSTC, FZR	Coordinating administrative affairs of the institute
2.	January, 2013	April, 2016	ERP Coordinator, SBSSTC,FZR	Procurement of ERP solution from TCS i.e. TCSiON (Based on TI-AS-Service-Model)as per decision of Hon'ble BOG ,SBSSTC,FZR, Preparing ERP implementation plan for SBSSTC,FZR, Interaction with process owners to understand workflow of various sections/departments/wings, Interaction with TCS representatives for configuring TCSiON as per SBSSTC, requirement, Coordinating data entry in ERP solution, Training of users to use TCSiON, Preparing secure access policies for users, Maintaining issue tracker
3.	26th Feb , 2012	26 Dec.,2012	Head Deptt. of CSE,PIT Kapurthala (IKGPTU Main Campus)	Coordinating various academic and other activities of the department, Framing blueprint for scheme of M.Tech. Drafted scheme and Syllabi for M.Tech. CSE(Networking System),Drafted CGPA system for PIT, Kapurthala ,Prepared guidelines for M.Tech. Dissertation-I &II, Planned M.Tech CSE (Networking System) admission strategy for July 2012,Conducted Direct Counseling for M.Tech in July ,2012.

4.	26th July , 2009	2nd Jan,2012	Course Coordinator, CSE, PTU Regional Center, SBSSTC ,FZR	Distribution of M.Tech, Part Time subjects as per expertise of teachers, Planning Seminar, Project and Dissertations of M.Tech Part-Time students, and Conducting vive–voice examinations for M.Tech dissertation.
5.	2nd Aug. , 2007	2nd Jan 2012	Head CSE Department, SBSSTC, FZR	Planning & Development of department Labs ,Up gradation of existing labs, Managing Campus wide Network, Bandwidth management of College Internet , Coordinating various academic and other activities of the department.
6.	2001	2003	Main Contact, CISCO Local Networking Academy, SBSSTC, FZR	Procured and installed free of cost CISCO equipment worth 15Lacs under UNDP program, Established CISCO Local Networking Academy, Successful Enrolment and Completion of CISCO academy course for 117 students since inception
7.	1997	2003	Teacher Incharge, CSE	Up gradation of College Computer Centre , Commissioning of Leased line Internet in SBSCET through Ernet, Up gradation in bandwidth of Leased line Internet connection ,Planning & Development of department Labs, Connectivity of different buildings through fiber, Constituted department co-curricular society "COMPUWAVE" ,Coordinating various academic and other activities of the department.

Allied Duties Performed:

- Campus Wide Networking and Wi-Fi connectivity of SBSCET, Ferozepur
- Network Management of Campus wide Network
- Bandwidth management for leased line Internet Connectivity
- Conducted various entrance exams like CET, SAT in capacity of Supdt./Deputy Supdt.
- Conducted on line exams for placements in college computer centre
- Chaired various college purchase committees

Research

Details of Ph.D. Students:

S. No.	Name	Status / year	Title
1	Dr. Gulshan Kumar,Assistant Professor, SBSSTC, Ferozepur	Completed / 2014	Design of artificial intelligence based intrusion detection technique.
2	Mrs. Mandeep Kaur, Assistant Professor Khalsa College for Women, Amritsar	Registered / 2013	QoS routing in MANETS
3	Mr. Abhinav Bhandari, Research Scholar, NIT, Jalandhar	Submitted Thesis / 2016	A Mitigation Framework against flooding based Distributed Denial of Service Attack
4	Mrs. Ramanpreet Kaur,Research Scholar,NIT,Jalandhar	Submitted Thesis/ 2017	Distributed Security Architecture for Distributed Denial of Service(DDoS) Defense
5	Mr. Sunny Behl, Assistant Professor, SBSSTC, Ferozepur	Registered / 2014	Defense of Internet from DDOS Attacks : A Real Time experimentation
6	Mr. Parveen Kakkar, Assistant Professor DAVIET, Jalandhar	Registered / 2014	Detection & Mitigation of DDoS Attacks in Mobile Adhoc Networks
7	Mr. Karanpreet Singh Research Scholar, NIT, Jalandhar	Registered / 2015	Defending against DDoS Attacks
8	Mr. Sunil Kumar, Deputy Registrar, PTU, Kapurthala	Enrolled/ 2009	Tackling security Threats in MANETS
9.	Ms. Taranpreet Kaur, Assistant Professor, Hoshiarpur	Enrolled / 2014	Localization in wireless sensor networks
10.	Ms. Savita Walia, Research Scholar, UIET, Panjab University, Chandigarh	Enrolled / 2016	Image Forgery Detection

Details of M. Tech. students:

S. No.	Name	Year	Title

1	Mr. Sunny Behl, Assistant Professor, SBSSTC,Ferozepur	2010	Extrusion Based Detection System
2	Mr. Vishal Arora, Assistant Professor, SBSSTC, Ferozepur	2011	Detecting Intrusions in Educational Institutes: Case Study
3	Ms. Navjot Sidhu, Women-Scientist-DST, SBSSTC, Ferozepur.	2010	An Analysis of DDoS Attack's Impact on Web Services Using Real Time Traces.
4	Mr. Sunil Kumar, Deputy Registrar, Punjab Technical University, Jalandhar	2009	Comparison and implementation of AQM techniques in routers to prevent aggressive flows in networks
5	Ms. Ketki,Assistant Professor, Lovely Professional University, Jalandhar	2011	Characterization of DDoS attacks distributions from real data sets and emulation based experiments on DETER testbed
6	Mr. Sunil Kumar, Assistant Professor, Mukatsar	2013	Comparative Study of various DDoS Defense schemes using DETER testbed
7	Mr. Karanpreet Singh,PITKapurthala (PTU Main Campus)	2013	IP traceback using Port marking in IPv6 for flooding based DDoS attacks
8	Mr. Yogesh Kumar, PIT Kapurthala (PTU Main Campus)	2013	Feature Selection approach for Intrusion Detection
9	Mr. Jabarweer Singh, PIT Kapurthala (PTU Main Campus)	2013	An Effective Combination for AI based ensembles for intrusion detection
10	Ms. Nitika Chaudhary, PIT Kapurthala (PTU Main Campus)	2013	A Comparative analysis of AI based techniques to detect social engineering attacks
11	Mrs. Taranpreet Kaur, PIT Kapurthala (PTU Main Campus)	2013	Defending from RREQ flooding attacks in MANETS in military applications under group mobility
12	Mr. Vishva, PIT Kapurthala (PTU Main Campus)	2013	QOS improvement in AOMDV through backup and stable path routing
13	Mr. Dhairya, PIT Kapurthala (PTU Main Campus)	2013	Multiphase graphical based authentication in cloud computing
14	Ms.Shikha Mangotra, PIT Kapurthala (PTU Main Campus)	2013	Detection of HELLO flood attack on the LEACH protocol in WSN
15	Mr.Gagan Luthra, SBSSTC, Ferozepur	2014	Detection and prevention of sink hole attack on MANET reactive protocols
16	Mr. Narender, SBSSTC, Ferozepur	2014	Analysis of traffic engineering based security technologies in wireless mesh networks

			under flooding attacks
17	Mr. Shashi, PIT Kapurthala (PTU Main Campus)	2014	Mitigating impact of black hole attack in MANET
18	Mr.Ranjit Singh, PIT Kapurthala (PTU Main Campus)	2014	Analysis of peer to peer multimedia streaming
19	Mr. Navneet Sinha, PIT Kapurthala (PTU Main Campus)	2014	Supervised Machine Learning techniques for intrusion detection : A Comparative study
20	Ms. Tania Nagpal, SBSSTC, Ferozepur	2014	Characterizing impact of Black-Hole Attack on Elastic and Inelastic Applications in MANETs
21	Ms.Bhavana Mittal, M.Phil.	2009	Study of Hacking techniques and ways to prevent
22.	Kanwalpreet Kaur, PIT Kapurthala (PTU Main Campus)	2014	Design of QoS-Aware ODMRP with limited control overheads
23.	Nitika Bhardwaj, PIT Kapurthala (PTU Main Campus)	2014	Detection and avoidance of blackhole attack in AOMDV protocol in MANETs
24.	Satwinder Kaur, PIT Kapurthala (PTU Main Campus)	2014	Characterization of malicious head against hello flood attacks in LEACH protocol
25.	Gaurav Pathak, PIT Kapurthala (PTU Main Campus)	2014	Traffic aware load balancing in AOMDV in mobile adhoc networks
26.	Mr. Vikas, PIT Kapurthala (PTU Main Campus)	2015	Tackling aggressive flow using BLUE AQM technique
27.	Ms. Navneet Kambow, SBSSTC, Ferozepur	2015	Deployment of Honeypot in a Private Network
28.	Ms. Shalini, SBSSTC, Ferozepur	2015	Genetic algorithm based scheduling in computational grids
29.	Ms. Cheenu, SBSSTC, Ferozepur	2015	Characterizing impact of hello interval on link connectivity in MANETs
30.	Ms. Kanu, SBSSTC, Ferozepur	2015	Tackling bufferbloat using modern active queue management
31.	Ms. Rajbir Kaur, SBSSTC, Ferozepur	2015	A novel feature selection technique for intrusion detection
32	Mr. Barjinder Singh, SBSSTC, Ferozepur	2015	Simulation study of application Layer DDOS attacks against web server
32.	Mr. Pritpal Singh, SBSSTC, Ferozepur	2015	Performance Enhancement of a Malware detection system using score based prioritization of Snort Rules

S.No.		Year	
33.	Mr. Aditya, PIT Kapurthala	2015	Defending against RREO Flooding Attacks in AODV in MANETs
34.	Ms. Vaishali, , SBSSTC, Ferozepur	2016	Anomaly based detection of Black Hole attack on leach protocol in WSN
35.	Ms. Jaya, , SBSSTC, Ferozepur	2016	Comparative analysis of BNP scheduling algorithms in parallel system

Project/Consultancy:

S.no.	Project/Consultancy	Role	Contribution	Funded	Amount
1.	CISCO Local Networking academy in collaboration with United Nations Development Program (UNDP) New Delhi under Asia Pacific Development Information Program (APDIP)	Main Contact & CISCO certified Instructor	Successful completion of Cisco Certified Network Associate course of 117 B.Tech. CSE students of SBSSTC, Ferozepur	UNDP under APDIP	Rs. 15lacs CISCO equipment
2.	Validation of Defense against Web Based DDoS Attacks	Principal Investigator	M.Tech. thesis of SBSSTC students	DETER	-----
3.	"Development of Test Bed facility for evaluation of Defense techniques against DDoS Attack	Principal Investigator	Ph.D. & M.Tech. thesis of SBSSTC students	AICTE	Rs.7.5lacs

Conference(s) organized:

S.No.	Name of Conference	Level	Sponsored by
1.	1st International conference on Communication, computing, and Systems (ICCCS-2014)	International	TEQIP
2.	Organised special session on Network Security Threats and Countermeasures in 2nd IEEE 2015 International Conference on computing for sustainable development , INDIACOM-2015	International (IEEE)	ISTE, Delhi section

Publications

	Book Chapters
1.	Gulshan Kumar and Krishan Kumar, "A Multi-objective Genetic Algorithm Based Approach for Effective Intrusion Detection using Neural Networks" Springer Intellient Methods for Cyber Warfare, pp. 173-200, 2015. DOI: 10.1007/978-3-319-08624-8_8. ISBN: 978-3-319-08623-1. http://link.springer.com/chapter/10.1007%2F978-3-319-08624-8_8
2.	Ketki, Monika Sachdeva and Krishan Kumar, "Characterizing DDOS attack distributions from emulation based experiments on deter testbed", **Springer** Advanced Computing ,networking and security, pp. 541-550, 16-18 Dec.,2011, DOI: 10.1007/978-3-642-29280-4_63. http://link.springer.com/chapter/10.1007/978-3-642-29280-4_63
3.	Abhinav Bhandari, A. L. Sangal and Krishan Kumar," Queuing Algorithms Performance against Buffer Size and Attack Intensities in DDOS Attacks", **Springer**, International Conference, ADCONS 2011, Surathkal, pp. 534-540, December 16-18, 2011,DOI: 10.1007/978-3-642-29280-4_62. http://link.springer.com/chapter/10.1007/978-3-642-29280-4_62
4.	Krishan Kumar, R.C. Joshi, and Kuldip Singh, "An ISP Level Distributed approach to detect DDoS Attacks," Innovative Algorithms and Techniques in Automation, Industrial Electronics and Telecommunications, **Springer Netherlands**, Pages 235-240, September 04, 2007, DOI 10.1007/978-1-4020-6266-7. http://link.springer.com/chapter/10.1007/978-1-4020-6266-7_43#page-1
	Reputed International Journals
1.	Ramanpreet Kaur, Amrit Lal Sangal, and Krishan Kumar,"Overlay based defensive architecture to survive DDoS: A comparative study", **IOS press** Journal of High Speed Networks, DOI: 10.3233/JHS-170558, vol. 23, no. 1, pp. 67-91, 2017.
2.	Ramanpreet Kaur, Amrit Lal Sangal, and Krishan Kumar,"Modeling and simulation of adaptive Neuro-fuzzy based intelligent system for predictive stabilization in structured overlay networks", **Elsevier** Engineering Science and Technology, an International

	Journal, Volume 19, Issue 3, http://dx.doi.org/10.1016/j.jestch.2016.06.015
3.	Karanpreet Singh, Paramvir Singh, Krishan Kumar, "Application layer HTTP-GET flood DDoS attacks: research landscape and challenges", **Elsevier** Journal of Computers & security, http://dx.doi.org/10.1016/j.cose.2016.10.005, **SCI-Impact factor:1.38**
4.	Ramanpreet Kaur, Amrit Lal Sangal, and Krishan Kumar, "A Persistent Structured Hierarchical Overlay Network to Counter Intentional Churn Attack", Journal of Computer Networks and Communications, Volume 2016, Article ID 5191405, 15 pages, **Hindawi** Publishers. http://dx.doi.org/10.1155/2016/5191405
5.	Abhinav Bhandari, Amrit Lal Sangal and Krishan Kumar, "Characterizing Flash events and distributed Denial-of-service attacks: an empirical investigation", Wiley Journal on Security and Communication, 2016, pages: 18. DOI: 10.1002/sec 1472.**SCI** http://onlinelibrary.wiley.com/doi/10.1002/sec.1472/abstract
6.	Mandeep Kaur Gulati, Krishan Kumar, " Cross layer weight based on demand routing protocol for Mobile ad hoc networks", **Inderscience** International Journal of Communication Networks and Distributed Systems, Vol 16, No. 1, 2016, pp. 1-19. **DOI**: http://dx.doi.org/10.1504/IJCNDS.2016.073408 http://www.inderscienceonline.com/doi/abs/10.1504/IJCNDS.2016.073408
7.	Monika Sachdeva, Krishan Kumar, Gurvinder Singh, " A Comprehensive approach to discriminate DDoS attacks from flash events", **Elsevier** Journal of Information Security and Applications, Vol. 26, 2016. pp. 8-22. doi:10.1016/j.jisa.2015.11.001 http://www.sciencedirect.com/science/article/pii/S2214212615000472
8.	Karanpreet Singh, Paramvir Singh, Krishan Kumar, "A Systematic review of IP traceback schemes for denial of service attacks", **Elsevier** Journal of Computers & security, Vol. 56, 2016, pp. 111-139. doi:10.1016/j.cose.2015.06.007**SCI-Impact factor:1.38** http://www.sciencedirect.com/science/article/pii/S0167404815000930
9.	Abhinav Bhandari, A. L. Sangal, Krishan Kumar, "Destination Address Entropy based Detection and Traceback Approach against Distributed Denial of Service Attacks" International Journal of Computer Network and information Security, Vol. 8, 2015, pp. 9-20. **DOI:** 10.5815/ijcnis.2015.08.02 http://www.mecs-press.org/ijcnis/ijcnis-v7-n8/IJCNIS-V7-N8-2.pdf

10.	Gulshan Kumar and Krishan Kumar, "Network security–an updated perspective", Systems Science & Control Engineering: An Open Access Journal, **Taylor & Francis**, Volume 2, Issue 1, 2014, pp.: 325-334. DOI:10.1080/21642583.2014.895969. http://www.tandfonline.com/doi/abs/10.1080/21642583.2014.895969#.U_Ihw2OHvyY
11.	Monika Sachdeva and Krishan Kumar, "A Traffic Cluster Entropy Based Approach to Distinguish DDoS Attacks from Flash Event Using DETER Testbed", ISRN Communications and Networking, Volume 2014 (2014), **Hindawi Publishing Corporation**, Article ID 259831, pp. 15. http://dx.doi.org/10.1155/2014/259831
12.	Gulshan Kumar and Krishan Kumar, "Design of an evolutionary approach for intrusion detection", The Scientific World Journal Volume 2013 (2013), **Hindawi Publishing Corporation,** Article ID 962185, pp. 14. **SCI-Impact factor: 1.730** http://dx.doi.org/10.1155/2013/962185
13.	Gulshan Kumar and Krishan Kumar, "The Use of Multi-Objective Genetic Algorithm Based Approach to Create Ensemble of ANN for Intrusion Detection," International Journal of Intelligence Science, **Scientific Research An Academic Publisher,** Vol. 2 No. 4A, 2012, pp. 115-127. doi: 10.4236/ijis.2012.224016. http://www.scirp.org/journal/PaperInformation.aspx?paperID=24130#.U_Ip2mOHvyY
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1.	Detecting Low Rate Degrading and High Bandwidth Disruptive DDoS attacks in ISP Domain	International conference on Information Security And Computer Forensics In Chennai (2006)
2.	An Efficient DSP-Based Technique to Detect the Signature of Shrew Attacks,	IEEE-International Conference on signal and image processing in Hubli , Karnataka (2006)
3.	A Review on Botnet Defense Mechanisms: Detection, Tracing, Mitigation and Prevention	International conference on computer engineering and technology in Jodhpur (2010)
4.	Measuring DDoS Attack impact on web services using real time traces	International conference on computer engineering and technology in Jodhpur (2010
5.	Malware Detection in Local Area Networks with Snort	International conference on communication and computing technologies in Jalandhar (2011)
6.	An emulation based impact analysis of DDoS attacks on web services during flash events	2nd IEEE International Conference on Computer and Computation Technology in MNNIT Allahabad(2011)
7.	An experimental analysis for malware detection using extrusions	2nd IEEE International Conference on Computer and Computation Technology in MNNIT Allahabad(2011)
8.	Traceback techniques against DDoS attacks: A comprehensive review	2nd IEEE International Conference on Computer and Computation Technology in MNNIT Allahabad(2011)
9.	An Integrated Approach for Defending Against Distributed Denial-of-Service (DDoS) Attacks	Inter Research Institute Student Seminar(IRISS-2006), IIT Madras

Session chair in International Conferences / Seminars:

S.No.	Name of Conference / Workshop
1.	International conference on computing & communication (ICACC-2012), Feb. 23-25, 2012 at Baba Banda Singh Bahadur Engineering College, Fatehgarh Sahib.
2.	International conference on communication, computing and systems (ICCCS-2014), 8-9 August,2014 at Shaheed Bhagat Singh State Technical Campus, Ferozepur.
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4.	National Conference on Advances in manufacturing systems, 5-6 september, 2014 at Shaheed Bhagat Singh State Technical Campus, Ferozepur.
5.	International Conference on Interdisciplinary Research & Technological Developments, 1st November, 2014 at ICSSR North-Western Regional Centre, Panjab University, sector-14, Chandigarh.

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