Faculty Profile

Name	Davinder Singh Saini
Designation	Professor and HOD(ECE)
Pay Scale	Level 14
Department	Electronics and Communication Engineering
Qualification	PhD, M.Tech, B.E.

Date of joining	Institute	Present Post
30.09.2015	CCET Degree Wing	Professor

Experience *(in years)*	Total	Teaching	Industry
	23 yrs 7 months	23 yrs 5 months	2 months

Research Interests	Wireless Commuication, Radar Signal Processing, MIMO OFDM, WSN, Switced Capacitors

Contact Details:	Email	Mobile/Phone
	dssaini@ccet.ac.in	8146730369

Research Publications	International Journals	National Journals	International Conferences	National Conferences
	54	1	73	2

Books/Chapters Published	1 (book)		
Research Guidance	Ph. D.	9	Masters	15
Research Projects	Completed	2	Inprogress	1
Consultancy Projects	Completed	0	Inprogress	0
Seminar/Conference/STTPs	Attended	30	Organized	5

Professional Affiliations	
Awards/ Fellowships etc.	Annexure I
List of Publications	Annexure II
Research Project Detail	Annexure III
Patent Detail	Annexure IV
Consultancy	Nil
Ph.D Scholars Name	Completed(7):Neeru Sharma, Vipin Balyan, Bhasker Gupta, Alok Joshi, Tapan Jain, Keerti Tiwari, Ankur Thakur Ongoing(2): Hardeep Saini, Sunita Saini
Institute Responsibility	Present: HOD(ECE), Prof I/C Academics, Prof I/C PURC, Prof I/C AICTE/AISHE, President IIC Cell, Prof I/C NISP, Prof I/C Library, Prof I/C IQAC, Chairman ECE purchase Commitee Pevious: Prof I/C Exam & Result, Prof I/C Admission (JAC), Cordinator PU Final Exam, Centre Superitendent, Depty Centre Superitendent etc.
Department Responsibility	HOD, Chairman Purchase Committee, PhD Supervision
Any Other Information	Member Executive Committee CREST Chandigarh, Membeer BOS (ECE), Member of RDC Commitees at

	NITTTR Chandigarh, Member of RDC Commitee at PEC Chandigarh, PhD/M.tech External Expert at NITTTR Chandigarh, PhD/M.tech External Expert at PEC Chandigarh.

Signature of faculty

Annexure I (Awards/Fellowship)

	Title of Awards/ Honours	**Year**	**Awarding body**
International	The biography is listed in Marquis Who's Who in the World	2011	
International	**Financial Grant of Rs. 80000/-** for Research Paper presentation in international conference(ICCAE 2010), Feb 26-28 at Singapore	2010	Jaypee University of Information Technology, Waknaghat, Solan (H.P)
National	**Financial Grant of Rs. 19000/-** for Research Paper presentation in international conference IEEE Tencon Hyderabad, Nov 18-21, 2008	2008	Jaypee University of Information Technology, Waknaghat, Solan (H.P)
National	**Financial Grant of Rs. 17500/-** for Research Paper presentation in international conference IEEE Indicon Bangalore, Sep 6-8, 2007	2007	Jaypee University of Information Technology, Waknaghat, Solan (H.P)
National	**Financial Grant of Rs. 10000/-** for Research Paper presentation in international conference Springer WPMC Jaipur, Dec 3-6, 2007	2007	Jaypee University of Information Technology, Waknaghat, Solan (H.P)
National	**Financial Grant of Rs. 10500/-** for Research Paper presentation in international conference IEEE ICSCN 2007, Feb 26-27, 2007	2007	Jaypee University of Information Technology, Waknaghat, Solan (H.P)
National	**Financial Grant of Rs. 2000/-** for Research Paper presentation in national conference ECCS-06, Patiala, 9-10 Feb 2006	2007	Jaypee University of Information Technology, Waknaghat, Solan (H.P)
National	**Financial Grant of Rs. 3000/-** for Research Paper presentation in NCCB-06, National Conference, Kota, INDIA, 8-10 March 2006	2007	Jaypee University of Information Technology, Waknaghat, Solan (H.P)
National	GATE Qualified	1999	AICTE
National	Teaching assistance ship in M.Tech at IIT roorkee	1999-2001	AICTE

Annexure II(List of Publications)

International Journals

1. Design Considerations for Power-Efficient Fully Integrated 3: 1 Switched Capacitor DC-DC Converter for PV Modules, I.F.: 2.4,Electronics 13 (21), 41-56, SCI
2. Enhancing classification of lung diseases by optimizing training hyperparameters of the deep learning network, I.F.: 3, Multimedia Tools and Applications, 1-25, SCI
3. S Saini, DS Saini,Performance Modelling and Design Techniques for Efficiency Improvement in On-chip Switched-Capacitor DC-DC Converter, Wireless Personal Communications 127 (4), 3379-3405, Dec 2022, SCI
4. A Thakur, DS Saini,Mitigating peak side-lobe levels in pulse compression radar using classical orthogonal polynomials,Wireless Networks 28 (7), 2889-2899, Oct 2022, SCI
5. A Thakur, DS Saini,Modifying polyphase codes to mitigate range side-lobes in pulse compression radar,Wireless Personal Communications 123 (1), 693-707, Mar 2022, SCI
6. A. Thakur and D. S. Saini, "MIMO radar sequence design with constant envelope and low correlation side-lobe levels," *International Journal of Electronics and Communications,* vol. 136, Jul. 2021. SCI
7. A. Thakur and D. S. Saini, "Correlation processor based side-lobe suppression for polyphase codes in radar systems," *Wireless Personal Communications,* vol. 115, pp. 377-389, Nov. 2020. SCI
8. A. Thakur and D. S. Saini, "Bandwidth optimization and side-lobe levels reduction in PC radar using Legendre orthogonal polynomials," *Digital Signal Processing,* vol. 101, Jun. 2020. SCI
9. B Gupta, V Balyan, DS Saini, QOSTBC coded MIMO system with reduced complexity and optimised decoding for rank deficient channels, IET Communications 14 (4), 646-654, 2019. SCI
10. V Balyan, DS Saini, B Gupta, Service Time-Based Region Division in OVSF-Based Wireless Networks with Adaptive LTE-M Network for Machine to Machine Communications, Journal of Electrical and Computer Engineering, 2019, https://doi.org/10.1155/2019/3623712,ESCI
11. Keerti Tiwari, Davinder S. Saini and Sunil V. Bhooshan, "Error Rate Analysis of MIMO System with OSTBC and MRC in Composite Weibull-Gamma Fading, *International Journal on Electrical Engineering and Informatics*, Aug. pp. 51-59, 10(1),2018 (Scopus Indexed),UGC
12. Keerti Tiwari, Davinder S. Saini and Sunil V. Bhooshan, "An Efficient detection for improved ASEP of MIMO Composite Fading Channel with Generalized Noise" *Wireless Personal Communication* (Springer), pp. 2913-2923, 98(3), 2018.https://doi.org/10.1007/s11277-017-5007-4, Oct 2017.(TR, Scopus, SCI Indexed)
13. Tiwari K., Bharti B., Saini D.S. (2018) SER Performance Improvement in OFDM System Over Generalized *K*-fading Channel, Springer Next-Generation Networks Advances in Intelligent Systems and Computing, vol 638. Pp. 181-189., Springer.
14. Tiwari, K., Saini, D.S. and Bhooshan, S.V. (2018), "Symbol error rate of MIMO single and double-Weibull fading channels with OSTBC and MRC", *World Journal of Engineering*, Vol. 15 No. 4, pp. 498-504. https://doi.org/10.1108/WJE-04-2017-0090
15. Alok Joshi, Davinder S Saini, GA-PTS Using Novel Mapping Scheme for PAPR Reduction of OFDM Signals Without SI, **Springer Wireless Personal Communications**, pp. 639-651, 92(2), Jan 2017., TR, SCI, Scopus,

16. Alok Joshi, Davinder S Saini, PTS using novel constellation extension scheme for PAPR reduction of OFDM signals without side information, **International Journal of Information and Communication Technology**, pp. 382-395, 11(3), 2017, scopus, UGC

17. Keerti Tiwari, Davinder S. Saini and Sunil V. Bhooshan, "On the Capacity of MIMO Weibull-Gamma Fading Channels in Low SNR Regime*," Journal of Electrical and Computer Engineering* (Hindawi), Volume 2016, Article ID 9304597, 8 pages, Nov. 2016. http://dx.doi.org/10.1155/2016/9304597(Scopus Indexed, UGC)

18. Keerti Tiwari, Davinder S. Saini and Sunil V. Bhooshan, "Performance Improvement in Spatially Multiplexed MIMO Systems over Weibull-Gamma Fading Channel", *Frequenz: Journal of RF-engineering and telecommunications* (De-Gruyter), Volume 70, issue 11-12, pp. 547-553, Aug. 2016. http://dx.doi.org/10.1515/freq-2016-0034(TR, Scopus, SCI Indexed)

19. Keerti Tiwari, Davinder S. Saini and Sunil V. Bhooshan, "Antenna Selection for MIMO Systems over Weibull-Gamma Fading Channel", *Perspectives in Science* (Elsevier), Volume 8, pp. 475-478, June 2016. http://dx.doi.org/10.1016/j.pisc.2016.06.004 (Indexing in DOAJ), Directory of open access journals, ISSN: 22130209, UGC

20. Keerti Tiwari, Davinder S. Saini and Sunil V. Bhooshan, "ASEP of MIMO System with MMSE-OSIC Detection over Weibull-Gamma Fading Channel Subject to AWGGN", *Journal of Computer Networks and Communications* (Hindawi), Volume 2016, Article ID 7918456, 7 pages, Feb. 2016. http://dx.doi.org/10.1155/2016/7918456 (Scopus Indexed, UGC)

21. DS Saini, V Balyan,An Efficient Multicode Design for Real Time QoS Support in OVSF Based CDMA Networks, **Wireless Personal Communications** 90 (4), 1799-1810, 2016.(2) SCI

22. T. Jain, D. S. Saini and S. V. Bhooshan, "Lifetime Optimization of a Multiple Sink Wireless Sensor Network through Energy Balancing", **Hindawi Journal of Sensors**, Volume 2015, Article ID 921250, http://dx.doi.org/10.1155/2015/921250. [TR, SCI, Scopus], **IF:1.704.**

23. V Balyan, DS Saini, I Sharma, P Aggarwal, Quantized-Non Quantized Code Tree Partitioning and Reduction in Internal-External Fragmentation, **Wireless Personal Communications** 82 (4), 2391-2405, Jun 2016, **IF:0.98(2)** TR, SCI, Scopus

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26. Tapan Jain, Davinder Singh Saini, Sunil Vidya Bhooshan (2014). Cluster Head Selection in a Homogeneous Wireless Sensor Network Ensuring Full Connectivity with Minimum Isolated Nodes. **Hindawi *Journal of Sensors, 2014*** (2014), http://dx.doi.org/10.1155/2014/724219Article ID 724219-8p, [TR,SCI, Scopus], **IF:1.704**

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28. V. Balyan and D. S Saini , Top Down Code Search to Locate An Optimum Code and Reduction in Code Blocking for CDMA Networks, **Wireless Pers. Commun., Vol. 75, pp. 465-482, Sep 2013. (Springer), IF:0.98(2)** SCI, Scopus

29. B. Gupta, and D. S. Saini, "Moment generating function-based pairwise error probability analysis of concatenated low density parity check codes with Alamouti coded multiple input multiple output-orthogonal frequency division multiplexing systems", **IET Commun., Vol. 8(3), Feb. 2014, p. 399 – 412. (IET), IF:1.06(2), TR, SCI, scopus**

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34. D. S Saini and N. Sharma , "Reduction in code blocking using scattered vacant codes for OVSF based WCDMA networks", **IET Commun., Vol 1(7), pp. 40-48, 2013. (IET), IF:1.06(2), TR, SCI, scopus**

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41. D. Saini, A. Gupta, A. Joshi, "Reducing code wastage in orthogonal variable spreading factor-based wideband code division multiple access networks," **Wiley J. Commun. Sys.,** Volume 26, Issue 7, pages 863–874, July 2013 **(Wiley), IF: 1.1**

42. D. S Saini and N. Sharma, "Performance Improvement in OVSF based CDMA Networks Using Flexible Assignment of Data Calls," **J. Comp. Netw. & Commun.,** Academy and Industry Research Collaboration Center **Vol.3 (6), pp. 197-212, Nov.2011, DOI : 10.5121/ijcnc.2011.361***3, UGC*

43. D. S Saini, "Reducing Wastage Capacity in OVSF Based CDMA Networks using Dynamic Rake Combiners," **WSEAS Trans. Commun., pp. 163-174, Vol. 10(6), June 2011, ISSN: 1109-2742. (WSEAS),** (Scopus Indexed)

44. V. Balyan and D. S Saini, "Integrating new calls and performance improvement in OVSF based CDMA networks", **Int. J. Comput. and Commun., Vol. 5(2), pp. 35-42, 2011. ISSN: 2074-1294., IF: .441**

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47. B. Gupta, Priyank, and D. S. Saini, "Performance improvement in OFDM with near Shannon Turbo codes," **Int. J. Syst. Simul., Vol. 5(2), Jan 2011**

48. D. S. Gangwar and D. S Saini, "Arrhythmia Detection for Ambulatory Patient Monitoring," **Commun. in Comput. & Inform. Science, Vol. 70, 2010, 168-180. (Springer), UGC**

49. D. S Saini and M. Upadhyay, "Multiple Rake Combiners and Performance improvement in 3G and beyond WCDMA Systems," **IEEE Trans. Veh. Technol., Vol. 58(7), pp.3361-3370, Sep 2009. (IEEE Transactions), IF: 4.066(2), TR, SCI, Scopus**

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53. D. S Saini and S. Bhooshan, "Reducing Code Selection Time for Third Generation and Beyond CDMA Wireless Communication Systems", **Comput. Commun. Review, 2008, (CCR) online. ccr.sigcomm.org**

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55. D..S.Saini and S.V.Bhooshan. Fast Code Assignment Schemes for Third Generation and Beyond CDMA Wireless Communication Systems. **Int'l J. HIT Trans. on ECCN, India, vol.1. No.2. pp 118-127, June 2006**

International Conferences

1. Gupta, B.; Saini, D. S. "A low complexity decoding scheme of STFBC MIMO-OFDM system," in proc. **Wireless Advanced (WiAd), 2012, London, pp.176-180, 25-27 June 2012.**

2. A. Joshi, D. Bhardwaj, D. S. Saini, "PAPR reduction in OFDM with FEC (RS-CC and Turbo coding) system using DHT pre-coding" **IEEE International Conference on Electronics and Optoelectronics (ICEOE2012), 27- 29, Shenyang, China, pp. 14-18, July 2012.**

3. Joshi, A., Saini, D. S , " PAPR Analysis of Coded- OFDM System and Mitigating its Effect with Clipping, SLM and PTS ", **IEEE ICIMU-2011, pp.1-5, Malaysia, Nov. 14-16, 2011.**

4. Joshi, A., Saini, D. S , " Performance Analysis Of Coded-OFDM with RS-CC and Turbo codes in Various Fading Environment ", **IEEE ICIMU-2011, pp. 1-5, Malaysia, Nov. 14-16, 2011.**

5. V. Balyan and D.S. Saini, "Multi Code Assignment with Minimum Number of Rakes for OVSF CDMA", **IEEE SoftCom 2011, Croatia, Sep 15-17, pp. 1-5, 2011.**

6. V. Balyan and D.S. Saini, "Code Assignment and Reassignment to reduce new code blocking in WCDMA networks", **IEEE SoftCom 2011, Croatia, Sep 15-17, pp. 1-5, 2011.**

7. V. Balyan and D. S Saini, "Immediate Neighbor Assignment and Reduction in Code Blocking for OVSF-WCDMA," **IEEE SoftCom 2011, Croatia, Sep 23-25, pp. 1-5, 2011.**

8. D. S Saini and N. Sharma, "An Efficient Multi Code Design for Code Blocking Reduction in 3G Wireless Networks," **IEEE Sarnoff, pp.1-5, April 12-14, NJ, USA, 2010.**

9. A. Joshi and D. S Saini, "Coded-OFDM in Various Multipath Fading Environments," **IEEE ICAAE 2010, Singapore, vol.3, pp. 127-131, Feb-Mar 2010.**

10. N. Sharma, D. S Saini and A. Dave, "Hybrid Single Code and Multi Code Design to Reduce Complexity in OVSF Codes Based Wireless Networks," **IEEE Latincom 2009, Columbia, pp. 1-5, Sept. 2009**.

11. D. S Saini, N. Sharma, L. Sharma, and A. Sharma, "Fair Single Code and Multi Code Assignment Schemes for OVSF Based Networks," **IEEE Latincom 2009, Columbia, pp. 1-5, Sept. 2009**.

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14. D. S. Saini, A. Dhiman, S. Bhatia, S. Singla, "A Performance Comparison of Routing Protocols for Mobile Adhoc Networks using NS-2," **IEEE SoftCOM 2009, Croatia Sept. 2009.**

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16. D. S Saini, C. Dubey, S. Rathor and R. Sisodia, "Implementation and Comparison of Clustering Techniques in Wireless Routing Protocols," **ICCSIT 2009**, **pp.159-162, Aug 2009, Beijing, China.**

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19. **D..S.Saini** and S.V.Bhooshan," Assignment and Reassignment Schemes for OVSF Codes in WCDMA," **IEEE/ACM IWCMC2006, Vancouver, pp. 497-501, July 3-6, 2006.**

20. Hardeep Saini, D.S.Saini, "Role of Bio-inspired algorithms in Detection of Lung Diseases using Deep Learning", International Conference AICTA, Dec 18-20, 2023, PEC Chandigarh.

21. Sunita Saini and D.S.Saini, "Modelling and Analysis of Step Down Switched Capacitor DC-DC converter for SoC", International Conference ICSPC, Dec 21-23, 2023, JIIT Noida.

22. Thakur and D.S. Saini, "Ambiguity function analysis of polyphase codes in pulse compression radars," *International Conference on Computing Applications in Electrical and Electronics Engineering,* Mar. 2020.

23. A. Thakur and D.S. Saini, "Transmit waveform design to avoid target masking in pulse compression radar," *International Conference on Communication and Signal Processing,* Jul. 2020.

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29. K. Tiwari, B. Bharti and D. S. Saini, "SER Performance Improvement in OFDM System over Generalized *K*-Fading Channel", Advances in Intelligence systems and computing, Springer, pp. 181-189, proceedings of CSI 2015, New Delhi, India 02- 05 Dec. 2015.

30. A. Arman, V. Kher, T. Jain, and D. S. Saini "Implementation of MPLS Routing in Traditional LEACH" International Conference on Signal Processing & Integrated Networks (SPIN 2014), February 17-18, 2015, Noida, india. [IEEE Conference][Scopus]

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35. V. Balyan, D. S. Saini, P. Dhawan, D. K. Nama and A. Agarwal, "Selective Soft Handover Calls Drop for OVSF based CDMA Networks", IEEE **ICSC 2013, India**, 11-12 Dec., pp. 176-180.

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Annexure III (Research Projects)

1. Jatinder Madan, Rajesh Kumar, D.S.Saini, Sunil Kumar, Design and Development of an Automatic Modular Car Parking System for the City of Chandigarh, 1Year, 3 Lakhs, DST Chandigarh-160019

2. Dinesh Sharma and D.S. Saini "Antenna Design for Energy Harvesting at RF Frequency" is completed scheme with value Rs. 100000.00 (One Lakh), DST Chandigarh-160019 (Approval Letter no. S&T&RE/RP/147(18-19)/Sanc/02/2019/336-343 dated 22.02.2019).

3. Dinesh Sharma, Shilpa Jindal and D.S. Saini, "Assessment of Electromagnetic Radiations and its Effects in Chandigarh" is sanctioned with value of Rs. 100000.00 (One Lakh), DST Chandigarh-160019, (Approval Letter no. S&T&RE/RP/147/sanc/09/2024/809-904) dated 05.09.2024).

Annexure IV (Patents)

Granted

1. Indian Patent"A Novel Meander Line Multiband Antenna with Parasitic Elements". F.No. 201911003653 dated 30th Jan. 2019, Grant Date:21/9/23.
2. Indian Patent "Slotted Wheel Microstrip Patch Antenna Based RF Energy Harvesting System". F.No. 201941017384 dated 01st May 2019 (Published on 10th May 2019 journal no. 19/2019).
3. Indian Patent"A Novel Dual Band Antenna for Wireless Body Area Network". F.No. 201911037562 dated 18th Sept. 2019 (Published on 27th Sept. 2019 journal no. 39/2019).

Published
1. Indian Patent Published "A Novel Multiband Antenna for 5G Wireless Communications". F.No. 201911008824 dated 7th Mar. 2019 (Published on 29th Mar. 2019 journal no. 13/2019).
2. Indian Patent Published "A Novel Multiband Hybrid Fractal Antenna with Parasitic Element", F.No. 201911049193 dated 29th Nov. 2019 (Published on20th Dec.2019 journal no.51/2019).
3. Indian Patent Published, Application No. 202111008572, Asystem of a modular automatic car parking system for a city marketplace. Date of submission:1/3/21, Publication Date:5/3/21,Request for Examination:4/12/23