



#### NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR

#### MESSAGE FROM DIRECTOR

Greetings from the National Institute of Technology Hamirpur, Himachal Pradesh!

It brings me great joy to present the 14th volume of UTKRANT. institute newsletter, as it allows me to share the accomplishments of NIT Hamirpur and its faculty members. By publishing this newsletter, we are advancing knowledge sharing, a fundamental aspect of our evolution as a species. This edition of the NIT Hamirpur newsletter aims to share the institute's research, innovation, and insights with our members. I extend my heartfelt congratulations to all involved in this initiative, which represents a significant step forward for our institute. Despite challenges, our dedicated faculty remains enthusiastic about sharing knowledge in the field of engineering education. This newsletter is a testament to our commitment to knowledge exchange and a source of pride for the entire NIT Hamirpur community as we continue to excel in teaching, research, and innovation, aligning with other esteemed engineering and technology institutes.



DR. H.M. SURYAWANSHI DIRECTOR

NIT Hamirpur has consistently contributed to regional development under the guidance of government initiatives. Our faculty believes in harnessing intelligence from diverse sources to uplift communities seeking guidance. Intelligence is not static; it requires adapting to new challenges and thinking innovatively. Through this newsletter, we aim to highlight our contributions to engineering education and our commitment to continuous improvement, reflected in our efforts to enhance our NIRF ranking. Our faculty strives to bridge the gap between current achievements and our full potential, driven by a moral purpose that emphasizes not only technical proficiency but also the development of good human beings.

DR. H.M. SURYAWANSHI DIRECTOR

#### **DISCLAIMER**

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Published by Faculty Incharge (News Bulletin)



#### Research and Development Projects

Sr. no.	Title of R&D Project/Patent	Name of Funding Agency and Amount	Name of PI Name of co-PI	Present Status of Project
1.	Carrying Capacity assessment study of Eco-Sensitive Zone	DEST, Grant -7 lakh	Dr. Inderpal Singh, PI) Dr. Puneet Sharma, CO-PI)	Ongoing
2.	Artificial Intelligence Based Automated Home Waste Segregator and Composter	HIMCOSTE	Dr. Himesh Handa (PI)	Ongoing
3.	FIST (Fund for Improvement of Science & Technology Infrastructure)	DST, Grant- 2.23 Crore	Dr Naveen Chauhan, DoCSE	Awarded
4.	The Global Business Behavioral Strategies for Sustainable Management Practices: ESG TO SDGS (GLOSMAN - 2024)	ICSSR	Dr Sunder Kala Negi	Ongoing
5.	Design and development of Circularly Polarized Leaky-Wave Antenna in Substrate Integrated Image Guide/Dielectric Image Line environment for 5G mm-Wave Application	SERB, Grant -11 Lakh	Dr. Chandra Shekhar Prasad	Ongoing



#### Patents Filed

Sr.No	Title	Patent Application Number	Inventor/ Author
1.	Power System Resilence Index	202311066402	Dr. Yog Raj Sood, Ankur Maheshwari, Amit Kumar
2.	A Novel economic greener valuable tile product synthesized from the residue of sewage sludge after plasma gasification	POTWIERDZ ENIE/880193 / P.446892	Vishwjeet, Halina Pawlak- Kruczek, Tomasz Hardy, Jerzy Dora, Amit Arora, Tadeusz Mączka
3.	A Method for Synthesizing Amine Functionalized Polymer Membrane For Electrochemical Reduction of CO <sup>2</sup> To Hydrocarbons	202311089196	Abhishek Kumar, Tapas Palai, Anurag K. Tiwari, Leela Manohar Aeshala
4.	Internet of Things (IoT) Enabled Energy Management System	No.: 461930, 25 <sup>th</sup> October 2023	Rohit Dhiman, M.C. Chowdary, V.R. Teja, T. Anirudh, and Rajeevan Chandel

#### Ph.D. completed

Sr.No.	Name of the candidate	Name of Supervisor	Title of the Thesis
1.	Mr. Vikas Bhola 2K10-Ph.DArch178	Prof. (Dr). Minakshi Jain and Dr. Inderpal Singh	Eco-Framework for Religious Tourism of Trikuta Hills: Study of Shri Mata Vaishno Devi Mandir, Katra
2.	Ms. Shalini 2K18-Ph.DChem-409	Dr. Bharti Gaur	Bio-Derived Self-Healing Coatings Based on Thermoreversible Diels-Alder Reactions



3.	Mr. Himanshu Verma 2K19-Ph.DCSE-465	Dr. Naveen Chauhan	Resource-Constrained-6 LoWPAN based 'Internet of Healthcare Things'
4.	Mr. Vineet Kumar 2K19-Ph.DEE- 434	Dr. Veena Sharma	Combined Voltage and Frequency Control in Interconnected Multi Area Power System
5.	Mr. Deepanshu Kaushal 2K17-Ph.DE&CE- 357	Prof. Rajeevan Chandel	"Design and Performance Investigations of Fractal Antennas for Multiband Operation"
6.	Mr. Manish Kumar 2K18-Ph.DEE- 384	Dr. R.K. Jarial and Dr. R. Nath	"Estimation of Grid Voltage Parameters for Grid Integration of Distributed Generation (DG) Systems"
7.	Ms. Kanika 2K18-Ph.DMath-411	Dr. Ramesh Kumar Vats	Studies on Existence and Stability of the Solutions for Fractional Differential Equations
8.	Mr. Akhil Walia 2K17-Ph.DEE- 330	Dr. Amit Kaul	"Combining Traditional and Esoteric Biometrics for Robust Human Authentication"
9.	Mr. Ajay Kumar 2K18-Ph.DME- 389	Dr. Prashant Kumar	"Performance Evaluation and Optimisation of Recyclic Type Photovoltaic Thermal (PV/T) Solar Air Collectors"



10.	Mr. Atul Kumar Kushwaha2K18- Ph.D Math-414	Prof. Y. D. Sharma	"Stability Analysis of Thermo- bioconvection Problems in Fluid Suspension"
11.	Mr. Sunil Setia 2K18-Ph.DME-390	Dr. Sant Ram Chauhan	"Investigations of Mechanical, Tribological and Machining characteristics of micro and nano particulate reinforced Aluminium matrix composites"
12.	Mr. Avinash Bhardwaj 2K18-Ph.DCE-380	Dr. Ravi Kumar Sharma	"Application Potential of Clay Stabilized with Waste Foundry Sand and Admixtures in Geotechnical Problems"
13.	Ms. Raj Kumari 2K20-Ph.DECE- 511	Dr. Mahesh Angira	"Design and Performance Enhancement of Capacitive Shunt RF-MEMS Switches for 5G and Beyond Applications
14.	Ms. Pratibha Sharma 2K18-Ph.DChem- 405	Dr. Raj Kaushal (Supervisor) Dr. Jai Prakash (Co-Supervisor)	"Synthesis and Functionalization of Silica Nanoparticles for Removal of Water Pollutants"
15.	Ms. Leelavati 2K16-Ph.DPhy317	Dr. Rajesh Kumar (Supervisor)	"Structural, Optical and Magnetic studies of Transition metal substituted CdO (Cd <sub>1</sub> - <sub>x</sub> TM <sub>x</sub> O) nanostructures "



16.	Mr. Mohammad Shad 2K18-Ph.DMath- 413	Prof. Y. D. Sharma (Supervisor) Dr. Pankaj Narula (Co-Supervisor) Assistant Professor,	"Development of Kumaraswamy Seasonal Autoregressive Moving Average (KSARMA) Model and Applications of non-Gaussian Time Series Models to Indian Climatic Data"
	Ms. Suman Kumari 2K18-Ph.DCE- 382	Dr. Vijay Shankar (Supervisor) Associate Professor, Department of Civil Engineering, NIT Hamirpur (H.P)	"Landslide Hazard Assessment of Mid and High Hills of Himachal Pradesh"

#### Journal papers published

Sr.No.	Title of the paper	Journal Status	Authorship
1.	Plasmonic photocatalysts as emerging multifunctional nanomaterials for energy and environmental applications, Physica B, 415297	SCI	Jai Prakash, HC Swart
2.	Fabrication methods and mechanisms for designing highly-efficient photocatalysts for energy and environmental applications, Materials Chemistry and Physics, 307 (2023)128108	SCI	Samriti, Rajpal Tyaig, Olim, Jai Prakash
3.	High performance self-healing polymeric nanocomposite coatings- Progress in Organic Coatings, 182, 107626, 2023.	SCI	S Parihar, B Gaur
4.	Sustainable interventions to improve the degrading visual quality of place and street spaces in the urban hill town of Shimla region, Himachal Pradesh. GeoJournal 88, 5609–5626	Scopus	Rahul Bharmoria, & Vandna Sharma
5.	Urban sustainable intervention to address the physical factor for degradation of visual place	Scopus	Rahul Bharmoria, & Vandna Sharma



	quality in the hilly urban region: A case of Manali town, Himachal Pradesh., IOP Conference Series: Earth and Environmental Science 1279 012015		
6.	Thermal Performance Evaluation of Vernacular Houses: A Case of Himachal Pradesh, IOP Conference Series: Earth and Environmental Science 1279 012012	Scopus	Ridima Sharma, & Vandna Sharma
7.	Energy efficiency initiatives and regulations for commercial buildings in India: a review. Environ Dev Sustain (2023).	SCIE, Scopus	Rajat Nainwal, & Aniket Sharma
8.	Development of an energy prediction model for residential buildings using Artificial Neural Network, IOP Conference Series: Earth and Environmental Science 1279 012006	Scopus	Rajat Nainwal, & Aniket Sharma
9.	Towards gender-inclusive cities: Prioritizing safety parameters for sustainable urban development through multi-criteria decision analysis: Sustainable Building Technology and Urban Development	Scopus	Asmita Yadav, Rashmi Kumari
10.	Behaviour of Horizontally Reinforced Stone Column in a Layered Soil: Enhancing Ground Improvement	Scopus	Bashir, M., Singh, Manendra., Kotiyal, K
11.	Three Dimensional Elasto-Plastic Analysis of Delhi Metro Underground Tunnels under the seismic loading	Scopus	Shakya, R., Singh, Manendra
12.	Experimental and Finite Element Study on Performance of RC Panels Subjected to Nearby Explosion	SCI/Scopus	Vimal Kumar; M. A. Iqbal; K. V. Kartik
13.	A convolutional neural network-based architecture for health monitoring of joint damages in a steel plane frame structure under temperature variability	SCI/Scopus	Maloth Naresh; Vimal Kumar; Joy Pal



14.	"Static response of a multi-span suspension bridgesubjected to highway vehicle loading", Asian Journal of Civil Engineering, https://doi.org/10.1007/s42107 - 023-00585-6	Scopus	Surbhi Aswal andK.Nallasiva m
15.	"Dynamic Response of a Box-Girder Bridge Using theFinite Element Technique", Asian Journal of Civil Engineering, https://doi.org/10.1007/s42107 - 023-00633-1	Scopus	MohammadFarha n Shaikh andNallasivam .K
16.	"Dynamic response of a multi-span suspension bridge subjected to highway vehicle loading", Asian Journal of Civil Engineeringhttps://doi.org/10.1007/s42107-023-00655-9	Scopus	Surbhi Aswal andK.Nallasiva m
17.	Dynamic Response of High-Rise Buildings with Shearwalls due to Seismic Forces", Asian Journal of Civil Engineering, https://doi.org/10.1007/s42107-023-00669-3	Scopus	Kashyap Shukla and Nallasivam .K
18.	"Static Analysis of Rigid Airfield Pavement Using FiniteElement Method Vs Closed-Form Solution" ,Computational Engineering and Physical Modeling,Volume 5,Issue 4 - Serial Number 20,doi:10.22115/CEPM.2023.354941.1219.	Google Scholar/Publons(P o uyan)	K. Kavin Mathi and K.Nallasivam
19.	"Static Analysis of a Concrete Gravity Dam using theFinite Element Technique". Asian Journal of Civil Engineering,doi.org/10.1007/s42107-023-00686-2	Scopus	Abhishek Sharma and Nallasivam .K
20.	"Response of a Natural Draught Hyperbolic CoolingTower Using the Finite Element Technique", Asian Journal of Civil Engineering, doi.org/10.1007/s42107-023-00703-4	Scopus	Ishan Shankar Vats and Nallasivam .K



21.	"Modal Analysis of Rigid Pavement Resting on a Two-Parameter Soil Foundation Model Using a Finite Element Framework, World Journal of Engineering,doi:10.1108/WJE-11- 2022-0461.	Scopus	Khair Ul Faisal Wani and K.Nallasivam
22.	"Dynamic interaction analysis of a high-speed trainvehicle and a thin-walled curved box-girder bridge with sub-track system by finite element method", Asian Journal of Civil Engineering,doi.org/10.1007/s42107-023-00724-z	Scopus	Virajan Verma and K.Nallasivam
23.	"Static and Free Vibration Response of a Box-GirderBridge Using the Finite Element Technique" ,Multidiscipline Modelling in Materialsand Structures , DOI10.1108/MMMS-12-2022-0277	Scopus	MohammadFarha n Shaikh and Nallasivam .K
24.	"Comparison of bearing capacity behaviour of stripfooting resting on sand-admixed pond ash reinforced with Natural natural fiber and Geogrid", Indian Geotechnical Journal, doi.org/10.1007/s40098-023-00745-0	Scopus	Abhishek Sharma and Nallasivam .K
25.	"Static analysis of rigid pavement runway under theinfluence of aircraft loading by finite elementsTechnique", Computational Engineering and Physical Modeling,5(4):79–101. https://doi.org/10.22115/cepm.2023.394133.1 2 36	Google Scholar/Publon s (Pouyan)	Sandeep Bharti,Nallasivam K, and Khair Ul Faisal Wani
26.	"Effective Location of Shear Walls in High-Rise RCC Buildings Subjected to Lateral Loads", Civil Engineering Infrastructures Journal, DOI: 10.22059/CEIJ.2023.350020.1879	Scopus (University of Tehran)	Kashyap Shukla and Nallasivam .K
27.	"Stability Analysis of a Concrete Arch Gravity Dam by 3D Finite Element Technique",36 (2023) 2,International Journal of Engineering Modelling, 35-59,DOI:	Scopus(University of Split)	Sougata Mukherjee and K. Nallasivam



	10.31534/engmod.2023.2.ri.03a		
28.	"Response of railway sub-track system subjected to railway trains loading by finite element technique", Vol.9(34),pp.1-19,https://doi.org/10.1007/s41062-023-01336-x	Scopus(Springer)	Ashutosh Ranjan and Nallasivam.K
29.	"Forecasting Fatigue Life of Horizontally Curved Thin-Walled Box-Girder Railway Bridge Exposed to Cyclic High-Speed Train Loads", Structural Integrity and Life,Vol. 23, No.3 (2023), pp. 335–342.	Scopus	Virajan Verma , K. Nallasivam and Khair Ul Faisal Wani
30.	"Static Analysis of Rigid Pavement Subjected to Aircraft Load Using Finite Element Technique", Computational Engineering and Physical Modeling, Volume 6, Issue 2 - Serial Number Doi.22.10.22115/CEPM.2024.418199.1248	Google Scholar/Publon s (Pouyan)	Khair Ul Faisal Wani and K.Nallasivam
31.	Novel Single Bounded Input Control Synchronization Criterion for a Category of Hyperchaotic and Chaotic Systems in Presence of Uncertainties	SCI	Pallav, Himesh Handa, Bharat Bhushan Sharma
32.	Hybrid cyber-attack compensation of sustainable microgrid using active disturbance rejection control strategy	Scopus	Komal Sharma, Anil Kumar Yadav, Bharat Bhushan Sharma
33.	Optimized multi-stage sifting approach for ECG arrhythmia classification with shallow machine learning models	Scopus	Piyush Mahajan and Amit Kaul
34.	Social welfare maximization in deregulated power market incorporating wind power plants using metaheuristic algorithm	SCI	DR R K Jarial Co- Author



35.	A Novel Approach for Power Quality Enhancement of Three-Phase Grid Integrated Solar PV System Using an Adaptive ZA- QLMS-Based Algorithm	SCI	DR R K Jarial Co- Author
36.	A Neural Network-based Time-Series Model for Predicting Global Solar Radiations	SCI	DR R K Jarial Co- Author
37.	Flow direction algorithm-based optimal power flow analysis in the presence of stochastic renewable energy sources	SCIE and Scopus	Maheshwari, Ankur, Yog Raj Sood, and Supriya Jaiswal.
38.	A Comprehensive Review on Stochastic Optimal Power Flow Problems and Solution Methodologies	SCIE and Scopus	Ankur Maheshwari, Yog Raj Sood & Supriya Jaiswal
39.	"Reinforcement Learning and Blockchain- based Intelligent and Secure Vaccine Recommender System", in Expert Systems, Wiley, Oct 2023	SCI	M. Sreenu, Nitin Gupta, Chandrashekar Jatoth and Deepak Gupta
40.	A Comprehensive review of 'Internet of Healthcare Things': Networking aspects, technologies, services, applications, challenges, and security concerns, Computer Science Review, Elsevier, Oct 2023	SCI	Himanshu Verma, Naveen Chauhan, Lalit K Awasthi
41.	Payal Maiti, Mona Mangsatabam, Abesh Chatterjee, Hammad Siddiqi, Asmita Mishra, B.C. Meikap, In-situ synthesis of efficient ZnCl2 doped pyrolyzed biochar for adsorptive remediation of organic dyes: Performance evaluation, mass transfer and mechanism; Separation and Purification Technology, Vol. 329, 125096.	SCI	Co-Author
42.	Photocatalytic Degradation of Ofloxacin in Wastewater Using Mg, Ni CO-Doped TiO2 Catalyst	Chemical Engineering & Technology (Accepted)	First Author



43.	Energy integration of hydrodealkylation (HDA) of toluene (In press/Available online)	Scopus	Corresponding author/Supervisor
44.	Numerical study on the flow of Bingham plastic fluids around an array of cylinders	Scopus	Co-Author
45.	A holistic analysis of chemical process performance using pinch technology (In press/Available online)	ESCI	Corresponding author/Supervisor
46.	Impact of COVID-19 on the Mental Health of Healthcare Workers and Job Loss from a Gender Perspective in India: A Systematic Review and Meta-Analysis	Scopus/Web of SC	Dr Rinshu et al. 2023
47.	Factors influencing travellers' decision- making behaviour towards online travel purchases: a fuzzy-DEMATEL approach	SCI	Dogra, N & Adil, M.
48.	Does shopping values influence consumers' well-being: empirical evidence from e-retail	SCI	Dogra, N., Nasir, M. & Adil, M.
49.	The impact of memorable tourism experiences on customer-based destination brand equity: the mediating role of destination attachment and overall satisfaction	SCOPUS	Guleria, A., Joshi, R. & Adil, M.
50.	Trends in the AI-based Banking Conversational Agents Literature: A Bibliometric Review	SCOPUS	Parthiban, E.S. & Adil, M.
51.	Examining the Adoption of AI-based Banking Chatbots: A Task Technology Fit and Network Externalities Perspective	SCOPUS	Parthiban, E.S. & Adil, M.



52.	Taking flight with food: Investigating the determinants of user acceptance towards drone-based food delivery services in India	Scopus, ABDC-B	Sachin Kumar, B Singh, V Kumar, R Chaudhuri, S Chatterjee
53.	Impact of Online Service Convenience on Adoption of Electronic Information Resources	Scopus	Sachin Kumar, V Kumar, M Vandana, D Batra
54.	The impact of memorable tourism experiences on customer-based destination brand equity: the mediating role of destination attachment and overall satisfaction	Scopus, ABDC- C	Guleria, A., Joshi, R. & Adil, M.
55.	How Green Entrepreneurship Evolved over the Past Two Decades? A Glance Through Bibliometric Analysis	Scopus	Neelika Arora, Neeraj Dhiman, and Rashmi Shrivastava
56.	What motivates users to continually use wearable medical devices? Evidence from a developing nation	Scopus	Mohit Jamwal, Honey Kanojia, Neeraj Dhiman
57.	Enhancing value in customer journey by considering the (ad)option of artificial intelligence tools	Scopus	Neeraj Dhiman, Mohit Jamwal, Ajay Kumar
58.	"Trends and advances in marine microalgae based sustainable biochar production"	SPRINGER	Shailendra Yadav, Mamta Awasthi
59.	" A kinetic study and thermometric analysis on waste cooking oil" Biomass Conversion and Biorefinery, 2023	SCI	Vishal Kumar,Debashish Das, Vijay Kumar Mahto



60.	"Application of Taguchi method and Response Surface Methodology (RSM) for parametric optimisation of natural convection heat transfer inside a triangular porous enclosure with in-line rectangular finned array" Experimental Heat Transfer,2023	SCI	Abhishek, Debasish Das, Pushkal Sharma
61.	"Investigation of tribological performance of non-edible biodiesel under different load and temperature" International Journal of Ambient Energy, 2023	SCOPUS	Vishal Kumar, Debasish Das
62.	"An Efficient FPGA-Based Accelerator for Perceptual Weighting Filter in Speech Coding," IETE Technical Review, Taylor & Francis Publication, Online Dec 2023. DOI: https://doi.org/10.1080/02564602.2023.2297 3 55.	SCIE	Dilip Singh and Rajeevan Chandel
63.	"Design and Analysis of a High-Performance N-Bit Digital Comparator Using a Novel EX- OR-NOR Gate," Journal of Active and Passive Electronic Devices (JAPED), Old City Publication, vol.17, no.4, pp. 287-305, 2023.	Scopus, Web of Science	Bushra Fatima, Rajeevan Chandel and Rohit Dhiman
64.	"E-Plane Dual Band Bandstop Waveguide Filter for possible X-band Applications, International Journal of Electronics Letters, DOI: 10.1080/21681724.2023.2291809		
65.	"Frequency response and transient analysis of through glass packaging vias usingmatrix- rational approximation (MRA) technique for three-dimensional ICs, Microelectronics Journal (Elsevier), vol. 141, pp. 105941	SCIE	Ajay Kumar and Rohit Dhiman



#### Conference papers published

			Authorship	
Sr.No.	Title of the paper	Conference Status	[Author / Co-Author(.)]	
1.	Design of Highly Selective and Ultrasensitive Schiff Base Sensors for Colorimetric and Fluorimetric Detection of Metal Ions	International	K. S. Ghosh, S. Sharma, A. Sharma	
2.	Rejuvenation of Yamuna River Percinct- Case of Delhi Region	International	Puneet Sharma	
3.	Green Infrastructure Development By Connecting Green Open spaces Case of Bengaluru, India	Scopus	Anju K.M. Puneet Sharma	
4.	Three-Dimensional Elasto- Plastic Analysis of Delhi Metro Underground Tunnels under the seismic loading	Scopus	Shakya, R., Singh, Manendra., and Samadhiya, N. K.	
5.	Static and Dynamic Interaction between Soil and Underground Tunnel	Scopus	Shakya, R., Singh, Manendra	
6.	Effect of Earthquake on Underground twin-tunnels	Scopus	Shakya, R., Singh, M., and Tripathi, K	
7.	Geotechnical and Geoenvironmental Hazards Associated with Punjab,	Scopus	Meghna Sharma	



	India Region with Possible Solutions		
8.	Sustainability Assessment of MICP for Ground Improvement	Scopus	Meghna Sharma
9.	Contraction Based Synchronisation of Complex Delayed Dynamical Network with Power Leader	Scopus	Yashasvi Chauhan, Bharat Bhushan Sharma
10.	Mitigation of Renewable Power Evacuation Constraints in Practical Utility Grid by Restricting Power Flow on the EHV AC Transmission Lines	Scopus	Ram Niwash Mahia and O. P. Mahela
11.	Hybrid LQR Control Optimized with PSO and TLBO Algorithms for Single Area Load Frequency Control Incorporating Renewable Energy Systems	Scopus	Manish Kumar Pandey and Ram Niwash Mahia
12.	Induction Motor Performance Improvement Through SPRS Using Multi-Level Inverter	Scopus	Sachin Sharma and O. P. Rahi
13.	Incremental Conductance- Based MPPT For Photovolatic Systems Utilizing PI Controller	Scopus	Nishant Thakur and O. P. Rahi



14.	Case Study on the Deployment of Solar Photovoltaic Systems atop Tinshed and Rooftops at NIT Hamirpur	Scopus	MD HANZALA HASSAN, Raj Kumar Jarial, Atul Jaysing Patil, Prashant Yelpale, Dr R K Jarial as Coauthor
15.	DGA Based Ensemble Learning Approach forPower Transformer Fault Diagnosis	Scopus	Dr R K Jarial as Coauthor
16.	"Dung Beetle Optimizer Algorithm Based OPF Solution considering Renewable Energy Sources,"	Scopus	Supriya Jaiswal, Yog Raj Sood, Ankur Maheshwar, Vineet Kumar, Sumit Sharma, Mukesh Singh,
17.	Optimal Power Flow Solution Based on Multi- Verse Optimizer Algorithm Incorporating Renewable Energy Sources	Scopus	Yog Raj Sood, Ankur Maheshwari, Supriya Jaiswal
18.	Power Systems Resilience Enhancement throughRenewable Energy Integration: Insights and Future Directions	Scopus	Yog Raj Sood, Amit Kumar, Ankur Maheshwari,
19.	Improved Deep Learning- based Contactless Biometric Recognition using Bracelet Lines" at the 4th International Conference on Distributed Sensing and Intelligent Systems (ICDSIS2023), 21- 22 December 2023, Dubai,	Scopus	Ritwik Duggal, Aarya Pandya, Rajkumar Singh Rathore, Khwab Kalra, Kanak Sharma, and Nitin Gupta



	UAE.		
20.	Comparative study on thermal and mechanical properties of carbon nanotubes by using molecular simulation approach	International	Arvind K. Gautam, Avinash Chandra, Mrunalini K. Gaydhane, Mhalshekar Krushika
21.	Development of Bio- electrode for reduction of CO2 to formate using Escherichia coli	International	Abhishek Kumar, Leela Manohar Aeshala, Tapas Palai
22.	A Holistic Design for Effective Energy Utilization of Hydrodealkylation of Toluene (HDA) Using Pinch Analysis	International	Corresponding author/Supervisor
23.	An FPGA Implementation of the Levinson-Durbin Algorithm for Speech Coding	3rd International Conference on Computational Electronics for Wireless Communications (ICCWC- 2023), Dr. B.R.A. NIT Jalandhar Pb, India	Dilip Singh and Rajeevan Chandel
24.	Design and Analysis of High Performance Current Starved Voltage Controlled Oscillator	3rd International Conference on Computational Electronics for Wireless Communications (ICCWC- 2023), Dr. B.R.A. NIT Jalandhar Pb, India	Paksham Mahajan and Rajeevan Chandel



#### 8 th International Planar Insert Loaded Triple Conference on Computers Amit Bage, Priyanka Negi, and Band Waveguide Bandand Devices for 25. Chandra Shekhar Prasad Pass Filter Communication (CODEC), Kolkata A Low-Profile, Dual-Band 8 th International Frequency Reconfigurable Conference on Computers Amit Bage and Surendra Kumar Antenna for and Devices for 26. Gupta 5G/WLAN/Wi-MAX Communication (CODEC), **Applications** Kolkata A Compact Dual-Band Frequency Reconfigurable (TJMW&AWPT2023), Surendra Kumar Gupta and MIMO Antenna for 27. Bangkok Amit Bage 5G/WLAN/Wi- MAX **Applications** THz Metamaterial Sensor (TJMW&AWPT2023), Amit Bage and Surendra Kumar 28. for Possible Influenza A Bangkok Gupta Virus Detection IEEE Electrical Design of Advanced Packaging and Analytical Time-Domain

Systems Symposium

3.

(EDAPS), Republic of

Mauritius Dec. 2023, pp. 1-

29.

Models for the Analysis of

Multibit TGVs for 3D ICs

**Tapered Differential** 

Ajay Kumar and Rohit Dhiman



	Books published				
Sr.No	Title of the Chapter	Name (s) of author(s) of chapter	Title of Book	Name(s) of Editor(s) & Publisher	
1.	Multifunctional Hybrid Semiconductor Photocatalyst Nanomaterials Application on Health, Energy and Environment ISBN: 978-3- 031-39483-6	Jai Prakash, Junghyun Cho, Bruno Campos Janegitz, Shuhui Sun	Oct-23	Springer (https://link.spring er.com/book/10.1 0 07/978-3-031- 39481-2)	
2.	Project Management: Planning and scheduling Techniques, ISBN: 9781032550916	Dr. Vijay Bansal	2023	Routledge	

	Book chapter published					
Sr. No	Title of the Chapter	Name (s) of author(s) of chapter	Title of Book	Name(s) of Editor(s)	Publisher	
1.	Introduction to Semiconductor Photocatalyst Nanomaterials : Properties, Modifications, and Multifunctiona l Applications	Sahil Thakur, Samriti, Abhijeet Ojha, Jai Prakash	Multifunctiona l Hybrid Semiconducto r Photocatalyst Nanomaterials	Jai Prakash, Junghyun Cho, Bruno Campos Janegitz,Shuhui Sun	Springer	



2.	Synthesis of Multifunctiona I Hybrid Semiconducto r	Samriti, Rajeev Gupta, Olim Ruzimuradov, Jai Prakash	Multifunctiona l Hybrid Semiconducto r Photocatalyst Nanomaterials	Jai Prakash, Junghyun Cho, Bruno Campos Janegitz,Shuhui Sun	Springer
3.	SiO2 Based Multifunctiona I Hybrid Semiconducto r Nanomaterials and Their Applications in Energy, Environmen t and Health	Pratibha Sharma, Raj Kaushal, Jai Prakash	Multifunctiona 1 Hybrid Semiconducto r Photocatalyst Nanomaterials	Jai Prakash, Junghyun Cho, Bruno Campos Janegitz,Shuhui Sun	Springer
4.	Recent advancements in designing Au/Ag based plasmonic photocatalyst s for efficient photocatalytic degradation	Samriti, Maneet, Jai Prakash	Synthesis and Applications Micro and Nano Technologies	Suban Sahoo M. Reza Hormozi- Nezhad	Elsevier
5.	Understanding Wadas: The traditional Maharashtra House	Dr. Amanjeet Kaur	Architectural Guide Mumbai	Bindu Agarwal Simran Agarwal	DOM, Mumbai
6.	FE Study on the Effect of Angle of Impact on the	Vimal Kumar; Aman Kumar	Composite Materials, High Strain	R. Velmurugan, Dong Ruan, S. Gurusideswar	CRC Press



	Performance of Aluminium Plate against an Ogive Projectile		Rate Studies		
7.	Performance of RC Plates Subjected to Explosive Loading	Vimal Kumar	Composite Materials, High Strain Rate Studies	R. Velmurugan, Dong Ruan, S. Gurusideswar	CRC Press
8.	Integrated Control of Microgrid with Vehicle to Grid Technology to Regulate Frequency in Smart City Power Network	Ram Niwash Mahia, R. Mishra, S. Gupta, and O. P. Mahela	Emerging Electrical and Computer Technologies for Smart Cities: Modelling, Solution Techniques and Applications	O. P. Mahela, B. Khan and P. K. Jain	Taylor and Francis
9.	Review of Renewable Energy Technologies in Smart Cities	Ram Niwash Mahia, H. Kaushik, R. Mishra, and O. P. Mahela	Emerging Electrical and Computer Technologies for Smart Cities: Modelling, Solution Techniques and Applications	O. P. Mahela, B. Khan and P. K. Jain	Taylor and Francis



10.	Production of Bio fuels: an Overview on Biodiesel Production from Waste Cooking Oil	Arvind K. Gautam,NandlalPingua, Avinash Chandra,SuantakKamsonli a n	Emerging Trends in Chemical and Biochemical Engineering- Volume 1	Mr. Saurabh Yadav, Dr. SuantakKamsonlian , Dr. Karthick S, Ms. Niharika Dutt	IIP Publisher
	Women's Empowerment -A review	Dr Yogesh Gupta and Dr Ruchi Sharma	Exploring emerging trends in the role of women in NEP-2020	Dr Sashi Punam and Dr Sanjeev Kumar	Research Culture Society and Publicatio n
12.	E-Waste Management : An Essential Deed To Safeguard Future	Mamta awasthi, kumarvaibhav, abhaykumarchoudhary , arvind k. Gautam*avinashchandra , pradeepkumar	Global waste Management	Dr. Brajeskumar,	Scrivener publishing wiley
13.	3D Integration- A Mini Review	Yachana Arora, Vandana Boora, Rajeevan Chandel and Rohit Dhiman	Interconnect Technologies for Integrated Circuit and Flexible Electronics	Dr. Yash Agarwal (DA-IICT Gandhinagar), Dr. Kavicharan M. (NIT Silchar) and Dr. Uma. P (VIT Vellore)	Springe r Nature



#### Awards

S.r.No.	Name of faculty	Name of organisation	Date	Award
1.	Jai Prakash	Stanform university, USA	Septemer 2023	List in World's Top 2% scientists
2.	Dr. Puneet Sharma (Associate Prof.)	UKPSC Uttarakhand	Dec 2023	Subject Advisor & Expert
3.	Dr. Manendra Singh	Indian Geotechnical Society	16-12- 2023	IGS-Dr. Shamsher Prakash Biennial Award-2023 best paper on Soil Dynamics for the year 2021-2022 for paper tittile "Some Aspects of Seismic Soil–Structure Interaction of Lifeline Structures"
4.	Dr. Meghna Sharma	Award is conferred by the Indian Geotechnical Society and sponsored by HEICO Company	14-12- 2023	IGS-Sardar Resham Singh Memorial Award 2023



5.	Dr. Meghna Sharma	Indian Geotechnical Society	14-12- 2023	Daughter of Indian Soil	
6.	Dr. Meghna Sharma	Indian Geotechnical Society and International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE).	16-12- 2023	IGS- ISSMGE Bright Spark Lecture 2023	
7.	Dr. Yog Raj Sood	United Nations (UN)	14-Nov- 23	One of our articles published with Elsevier was linked to the UN Sustainable Development Goals (SDGs), helping to tackle some of the world's greatest challenges (SDG 7)	
8.	Prof. Rajeevan Chandel	IETE (I)	16th Sep, 2023	IETE Prof. S.K. Mitra Memorial Award-2023 for the Best Research Oriented Paper	
9.	Prof. Rajeevan Chandel	NIT Hamirpur HP	2023	Received third prize for Hindi Sulekh in Abhiuday-2023	
10.	Amit Bage and Chandra Shekhar Prasad	Department of Radio Physics and Electronic, University of Calcutta	2023	Best Paper Award, Manuscript Title: "Planar insert loaded triple band waveguide bandpass filter"	
11.	Amit Bage	Department of Radio Physics and Electronic, University of Calcutta	2023	Second Prize for poster Presentation	



#### Placements details

Branch	Eligible Candidates	Placed	% Placement	Total Jobs Offered	% Jobs offered to NITH	Max CTC (in lakhs)
Computer Science &Engg.	118	68	57.63	68	57.63	54
Computer Science & Engg. Dual Degree	78	28	35.89	30	38.46	47
Electronics & Comm. Engg.	109	24	22.02	24	22.02	26.6
Electronics & Comm. Engg. Dual Degree	66	21	31.82	21	31.82	20
Electrical Engg.	105	48	45.71	49	46.66	18
Mechanical Engg.	113	72	63.72	72	63.72	18
Civil Engg.	103	19	18.45	19	18.45	18
Chemical Engg.	49	24	48.98	27	55.10	23.5
Architecture	45	12	26.66	12	26.66	6
M.Tech (All)	252	43	17.06	43	17.06	25
MBA	27	9	33.33	9	33.33	8



#### Significant outreach Institute out Activities

#### National Pollution Control Day

IIC NIT Hamirpur In Collaboration With Department Of Architecture Organizing Painting Competition On Occassion Of National Pollution Control Day (2nd December 2023) Team IIC NITH Prof. H.M Suryawanshi (Patron, Director NITH) Prof. Minakshi Jain (Dean R&C, DoA, NITH) Dr. Puneet Sharma (IIC Member,





#### International Conference

Dr. Meghna Sharma Chaired a Session at the Fourth International Conference on "Enviromental Geotechnology, Recycled Waste Materials and Sustainable Engineering, (EGRWSE 2023)" held on 25 October 2023 at Dr. B R Ambedkar National Institute of Technology Jalandhar, Punjab, Indndia. Photograph is

#### Annual IETE Convention

Prof. Rajeevan Chandel and Er. Animesh Shrivastava received the prestigious IETE Prof. S.K. Mitra Memorial Award-2023 for the Best Research Oriented Paper on 16th Sep 2023 in 66th Annual IETE Convention, held at Pune, Maharashtra, India.







#### Expert Lecture and Motivation Sessionon

An Expert Lecture and Motivation Session was given by Dr. Meghna Sharma on "Nature based solutions for Ground improvement and Future Opportunities in Geotechnical Engineering", 26 October 2023, at I. K. Gujral Punjab Technical University Jalandhar, Punjab.



#### **Expert Lecture**

Expert Lecture Delivered (1) "Sustainable Energy Promotion in Deregulated Power Industry", expert lecture delivered on 27th September 2023 at 10AM in Electrical Engineering Department, SVNIT Surat (Gujrat). (2) "Challenges and Solutions for Promotion of Renewable Energy System in Deregulated Power Sector", expert

and Challenges in Applications of Renewable Energy Systems" from 23rd to 27th October, 2023 at National Institute of Technology, Hamirpur (H.P.). (3) "Renewable Energy Promotion in Deregulated keynote address delivered on 29th November 2023 at 11.30AM in 4th International Conference on Machine Learning, Advances in Computing, Renewable Energy, and Communication (MARC Saharanpur (U.P.). (4) "Evolutionary Programming Application to Optimal Power Flow", expert lecture delivered on 12th December 2023 in e-Short Term Course on Software Tools for Academicians and Researchers (STAR-2023), December 11 -16 2023, National Institute of Technology, Hamirpur (H.P.).

#### **Guest Lecture**

Guest Lecture on the topic "Engineering Happiness

motivational speaker and Alumni of NIT Hamirpur, Dr Arun Bhardwaj on 12 September, 2023. Dr. Arun Bhardwaj shared his profound experiences and

from being a student at NIT Hamirpur to becoming a successful motivational speaker. He emphasized the importance of cultivating a positive mindset, setting achievable goals, and fostering engineer one's own happiness. The engaging session left the audience motivated and equipped with practical strategies to embark on their own transformative journey from good to great.







#### Activity

Sh. Rajesh Dharmani, B.Tech. Civil 1994, inducted as Cabinet Minister. An MLA from Ghumarwin assembly constituency of District Bilaspur(3rd term) being elected in December 2022.

Er. Narinder Pal Singh (1990 batch) and Er. Anju Sharma (1990 batch) has been promoted to Engineer-in-chief (Top Post) of HPPWD Himachal Pradesh and Engineer-in-chief (top post) in Jal Shakti Department of Himachal Pradesh respectively.

Heartiest congratulations!



#### Activity

Dr. Arun Bhardwaj is B-Tech (ECE, 1993)la9n93A)lumni of NIT Hamirpur published a book "

The Book of Reflections For Engineering Happiness in Life: Stories from Ancient Wisdom to Inspire The Best in You". This book is curated with a collection of stories to

trigger introspection and to help you uncover the best version of yourself. Spriha Gautam from DoCSE (2023 Batch )for getting admission in one of the top

institutes "Columbia Business School" in USA for

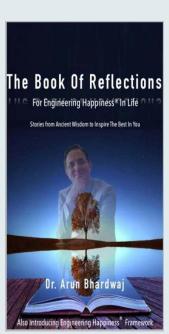


The Book of Reflections For Engineering Happiness in Life: Stories from Ancient Wisdom to Inspire The Best in You". This book is curated with a collection of stories to

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Spriha Gautam from DoCSE (2023 Batch) for getting admission in one of the top institutes "Columbia Business School" in USA for MBA.







#### **NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR**

#### NIT in News

#### एनआईटी हमीरपुर ने किया 2024 कैलेंडर का अनावरण



कंचन शर्मा/देवभूमि मिरर

हमीरपुर। राष्ट्रीय प्रौधोगिकी संस्थान हमीरपुर (एनआईटी इमीरपुर) ने वर्ष 2024 के लिए अपने आधिकारिक केलेंडर का अनावरण किया कैलेंडर का अनावरण एनआईटी हमीरपुर के निदेशक प्रोफेसर एच.एम. सूर्ववंशी और एमआईटी हमीरपुर के रिजस्ट्रार इं. अर्चना नानेटी ने किया। यह कैलेंडर प्रमुख रूप से विकासित भारत @2047 के राष्ट्रीय इष्टिकोण को दशार्ता है, जो एनआईटी इमीरपुर को एक तकनीकी रूप से उन्नत और आस्विनर्घर भारत के निर्माण की प्रतिबद्धता को प्रदर्शित करता है। कैलेंडर केवल तारीखों का संग्रह नहीं प्रोफेसर सूर्यवंशी ने जोर देते हुए कहा यह एनआईट हमीएउस की अडिंग भावना का प्रमाण है, जहां समर्पण, नवाचार और सहयोग द्वारा अभृतपूर्व उपलिब्ध्यों का मार्ग प्रशस्त करते हैं। प्रोफेसर सूर्यवंशी और डॉ. नानोटी ने इस अवसर पर छात्र, शिक्षक अकमंचारियों को हार्दिक शुभकामनाएं दी हैं। उन्होंने उम्मीद जताई कि आने वाले वर्ष में संस्थान नए मुकाम हासिल करेगा, जो उसके शिक्षक, कमंचारियों से छातों के सामृहिक समर्पण से संचाहित होगा।

#### NIT को Architecture छात्रों के पंजीकरण की मंजूरी मिली

कंचन शर्मा/ देवभूमि मिरर

हमीरपुर। प्रौद्योगिकी संस्थान (एनआईटी) हमीरपुर को 2019 से भर्ती हुए B.Arch छात्रों के पंजीकरण के लिए भारतीय वास्तुकला परिषद, सीओए (CoA) ने स्वीकृति प्रदान कर दी है। यह संस्थान और उसके वास्तुकला विभाग के लिए एक महत्वपूर्ण उपलब्धि है। यह बहुप्रतीक्षित स्वीकृति 5 जनवरी, 2024 को भारत के माननीय उपराष्ट्रपति सहित गणमान्य व्यक्तियों के आगमन की तैयारियों के बीच मिली। इस निर्णय ने एनआईटी हमीरपुर समदाय में खुशी की लहर दौड़ा दी और सभी का उत्साह बढ़ा दिया स्वीकृति पत्र यह सुनिश्चित करता है कि 2019-20, 2020-21, 2021-22 और 2022-23 के शैक्षणिक वर्षों में भर्ती हुए B.Arch छात्र अपने पाठ्यक्रम के सफल समापन पर सीओए में पंजीकरण कर सकेंगे। इसका अर्थ है कि वे पंजीकृत वास्तुकारों के रूप में अभ्यास करने के पात्र होंगे, जिससे उनके लिए वास्तुकला के क्षेत्र में रोमांचक कैरियर के द्वार खुल जाएंगे। इस स्वीकृति को प्राप्त करने के लिए, एनआईटी हमीरपुर के रजिस्ट्रार के नेतृत्व में एक टीम ने अगस्त 2023 में नई दिल्ली में सीओए कार्यालय के सम्मुख संस्थान का मामला प्रस्तुत किया। टीम ने यह आश्वासन दिया कि वास्तुकला विभाग सीओए द्वारा निर्धारित सभी आवश्यकताओं को पुरा करता है। उनकी इस प्रतिबद्धता का परिणाम नवंबर 2023



में सीओए टीम के निरीक्षण दौरे के रूप में सामने आया।
टीम विभाग और संस्थान दोनों में उपलब्ध अल्याधुनिक
सुविधाओं और खुनियादी ढांचे से अल्यिधक प्रभावित हुई।
उन्होंने वास्तुकला विभाग के समर्पण की सराहना की और
निर्देशक प्रोफेसर एच.एम. स्थंवंशी तथा रजिस्ट्रार डॉ.
अर्चना नानोटी के पंजीकरण के मुद्दे को हल करने के लिए
किए गए प्रयासों की प्रशंसा की। सीओए की स्थोकृति
एनआईटी हमीरपुर के वास्तुकला विभाग हारा चनाए गए
उच्च मानकों को प्रमाणित करती है। वह संस्थान की अपने
छात्रों की उच्चतम गुणवत्ता की शिक्षा प्रदान करने और
उन्हें वास्तुकला के क्षेत्र में सफल करियर के लिए तैयार
करने की अट्ट प्रतिबद्धता का प्रमाण है।







राष्ट्रीय प्रौद्योगिकी संस्थान हमीरपुर (हि.प्र.) में माननीय उप राष्ट्रपति श्री जगदीप धनखड़ द्वारा संवादात्मक सत्र ''विकसित मारत /2047 में युवाओं की भूमिका'



#### NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR

## बड़े सपने देखें, चुनौतियों का सामना करें और भारत को प्रगति की राह पर ले जाएं : उपराष्ट्रपति

एन .आई .टी . हमीरपुर के विद्यार्थियों को नए संसद भवन का दौरा करने का निमंत्रण दिया

हमीरपुर, 6 जनवरी (राजीव): राष्ट्रीय प्रौद्योगिकी संस्थान (एन.आई.टी.) हमीरपुर उपराष्ट्रपति जगदीप धनखड़ के जोशीले भाषण से प्रेरणा से भर गया। 'विकसित भारत-2047 में युवाओं की भूमिका' शीर्षक वाला यह संवादात्मक सत्र भारत की शताब्दी वर्ष तक एक विकसित भारत के निर्माण के लिए एक आह्वान हैं। राष्ट्र के भविष्य को आकार देने में युवा मन की महत्वपूर्ण भूमिका पर जोर देते हुए उपराष्ट्रपति



हमीरपुर: एन.आई.टी. में आयोजित कार्यक्रम में उपराष्ट्रपति जगदीप धनखड़ का अभिनंदन करते राज्यपाल शिव प्रताप शुक्त। साथ हैं केंद्रीय मंत्री अनुराग सिंह टाकुर, कैबिनेट मंत्री राजेश धर्माणी और एन.आई.टी. के निदेशक प्रो. एच.एम. सर्यवंशी। श्री धनखड़ ने एन.आई.टी. हमीरपुर की सराहना की। उन्होंने विद्यार्थियों, शिक्षकों और प्रशासन को उनकी शैक्षणिक उत्कृष्टता, अनुसंधान कौशल और नवाचार को बढ़ावा देने के लिए उनके समर्पण के लिए बधाई दी। उपराष्ट्रपति ने कहा कि एन.आई.टी. हमीरपुर के रजिस्ट्रार और निदेशक के बीच मजबूत सहयोग संस्थान की सफलता का एक महत्वपूर्ण कारणहै। उन्होंने विद्यार्थियों से आग्रह (शेष पृष्ठ 2 कालम 5 पर)



Day 1 of the 5<sup>th</sup> International Conference on Machine Learning, Image Processing, Network Security and Data Sciences (MIND 2023) organized during 21-22 December, 2023



14th Convocation, NIT Hamirpur (HP)



Induction Programme for Newly Recruited Faculty Members on 31-01-2024

28-10-2023

संस्थान पत्रिका

# उत्क्रात

संस्करण १४, अंक १

यदि आप सफलता चाहते हैं तो इसे अपना लक्ष्य ना बनाइये, सिर्फ वो करिए जो करना आपको अच्छा लगता है और जिसमे आपको विश्वास है, और खुद-बखुद आपको सफलता मिलेगी।

~ डेविड फ्रोस्ट

**Dr. Puneet Sharma,** Faculty Incharge

Akhilesh Bhatt, Editor in Chief

Arshita Mehta, Head of Design

National Institute of Technology Hamirpur Hamirpur (H.P.), India – 177005 Tel: +91-01972-254011 राष्ट् रीय प्रौद्योगिकी संस्थान, हमीरपुर हमीरपुर (गह.प्र.), भारत – 177005 फ़ोन: +91-01972-254011