CHITKARA UNIVERSITY

SUSTAINABILITY

REPORT 2024-2025

Responsible Growth
Enduring Impact.

SUSTAINABLE DEVELOPMENT GOALS



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CHITKARA UNIVERSITY

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SUSTAINABLE DEVELOPMENT GOALS

shaping the future 2024

FOREWORD

Globally, 2024 was defined by geopolitical conflict, shifts in global power dynamics and international relations, climate disasters, and the technological advances of artificial intelligence (AI). Rising global temperatures continued to disrupt ecosystems, impacting both human livelihoods and biodiversity. The imperative to transition to renewable energy sources grew stronger. In alignment with global sustainability goals, ***Chitkara University*** *has recognized the urgent need to address the root causes of climate change, including the dependence on fossil fuels. The university is committed to promoting clean energy research, enhancing energy efficiency, and fostering innovation in sustainable technologies. Through strategic initiatives, Chitkara University aims to support the global objective of tripling renewable energy capacity and doubling energy efficiency by 2030, preparing future leaders to drive environmental transformation.*

In higher education, generative AI emerged as a transformative force. Institutions, including ours, navigated both the promise and the perils of this technology in research, pedagogy and administration. As Chitkara University embraced these advancements, critical issues around academic integrity, data privacy, bias and equitable access to AI tools came into focus. Strengthening digital literacy among students and faculty has become a strategic priority.

In India, 2024 continued to highlight the importance of inclusive development, technological innovation and sustainable progress. At Chitkara University, we reaffirmed our commitment to nurturing leadership, promoting research excellence and contributing meaningfully to societal needs—especially through our alignment with the Sustainable Development Goals (SDGs).

The return of students to full campus life brought with it renewed energy and enthusiasm, even as they faced challenges such as inflation, housing constraints and the rising cost of living. We endeavoured to support our student community with wellness programs, affordable living initiatives and increased opportunities for engagement and support.

This ***Sustainability Report*** *captures Chitkara University's comprehensive efforts across* ***Curriculum, Research, Campus Operations and Community Engagement,*** *reflecting our enduring commitment to sustainability. In global recognition, our university continues to climb in international rankings, contributing significantly to several SDGs. With this momentum, we are now setting our sights beyond the 2030 agenda—towards shaping a more resilient and sustainable future.*

We also take this opportunity to recognize the visionary leadership of our senior academic and administrative teams, whose dedication has helped institutionalize sustainable practices and international collaboration at Chitkara University, Punjab.

Chitkara University, Punjab

Land
100 acres

Buil-up-Area
229300 sqm

Schools
14

Programs
73

Alumni
~80000

Employees
2881

Faculty Members
1405

Students
20793



Adopted Villages
5 (Populations: ~100000)

Industry and International linkages
~400

Chitkara Education Trust

Higher Education Institutions

- Chikara University, Punjab (Estb. 2010)
- Chitkara University, Himachal Pradesh (Estb. 2008)

School Education Institutions

- Chitkara International School, Chandigarh (Estb. 2004)
- Chitkara International School, Panchkula (Estb. 2020)

Research Themes

- RF and Microwave
- Digital Image processing and Computer Vision
- Natural Language Processing
- Cyber Security, Artificial Intelligence, Healthcare and Defence Technologies
- Green Buildings, Renewable Energy, Computational Fluid Dynamics
- Manufacturing Technologies, Machine Fault Diagnosis and Optimization
- Biotechnology, Synthetic Organic and Medicinal Chemistry
- Wireless Sensor Network, Internet of Things
- Software Defined Networking, Load Balancing, Deep Learning
- PERC Solar cell, Perovskite Solar Cell

the SDGs in numbers

OUR DASHBOARD

2024 at a Glance

643
health-professions graduated this year fueled by its strong offerings in B.Sc. & M.Sc. Nursing, Physiotherapy, Optometry and medical-lab sciences.

42%
of new degree entrants at Chitkara University were first-generation students.

3rd
Water Sustainability Award was conferred to Centre for Water Sciences for Innovation in Water Technology by TERI, in collaboration with UNDP and the Ministry of Jal Shakti—recognising its leadership in sustainable water innovation.

About **75%**
energy used at Campus comes from low-carbon sources, showcasing a strong commitment to sustainable energy.

Over **8** Crore
have been awarded to Chitkara University for government and international research projects, including DST, DRDO, Erasmus Programme and SERB-funded initiatives in RF/microwave and water-quality research.

1510
year-on-year rise in international students from developing countries University is steadily advancing its commitment to inclusive and equitable education for all.

98%
Chitkara University has repurposed nearly its entire campus for sustainability, with green space, solar-powered lounges, green buildings, biogas, recycling systems and a Smart City Research Lab.

89%
University has successfully recycled the majority of its campus waste, greatly reducing landfill use and showcasing its strong commitment to sustainable waste management practices.

2029
The university aims to become a carbon-neutral campus by this year, already sourcing about 75% of its total energy from low-carbon sources, with its Green Power supply fully backed by renewable products to reduce emissions.

Over **400**
strategic collaborations have been established, including partnerships with international organizations, government bodies, industry leaders and NGOs, highlighting a strong commitment to sustainable development and global cooperation.

AIM of the Goals

SDG 3: Ensure healthy lives and promote wellbeing for all.

SDG 4: Provide inclusive and quality education for all.

SDG 6: Ensure clean water and sanitation for all.

SDG 7: Ensure access to affordable and clean energy.

SDG 9: Build resilient infrastructure and foster innovation.

SDG 10: Reduce inequality within and among countries.

SDG 11: Make communities inclusive, safe, resilient and sustainable.

SDG 12: Ensure sustainable consumption and production patterns.

SDG 13: Promote climate action through innovation, research, and sustainable campus practices

SDG 17: Revitalize global partnerships for sustainable development.

Times Higher Education
Impact Rankings 2025

Chitkara University Ranked
Among India's Top Ten for Global Sustainable Impact

1st	3rd	5th	6th	7th	10th	10th
IN INDIA	IN INDIA	IN INDIA	IN INDIA	IN INDIA	IN INDIA	IN INDIA
17 PARTNERSHIPS FOR THE GOALS	11 SUSTAINABLE CITIES AND COMMUNITIES	13 CLIMATE ACTION	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION
101-200	101-200	201-300	201-300	201-300	101-200	101-200
BAND GLOBALLY	BAND GLOBALLY	BAND GLOBALLY	BAND GLOBALLY	BAND GLOBALLY	BAND GLOBALLY	BAND GLOBALLY

10th	12th	12th
IN INDIA	IN INDIA	OVERALL IN INDIA
6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	
101-200	RANKED 96	301-400
BAND GLOBALLY	BAND GLOBALLY	BAND GLOBALLY

Leading Sustainability, Impacting The World

Our Top four performing Individual SDG's



Individual India Leading SDG's

13 CLIMATE ACTION — **#1 In India**

17 PARTNERSHIPS FOR THE GOALS — **#1 In India**

Biggest Improvement

17 PARTNERSHIPS FOR THE GOALS — **8th In India (2021)** | **1st In India (2025)**

GLOBAL EMINENCE

WURI WORLD'S UNIVERSITIES WITH REAL IMPACT

Ranked All Over The World

8	96	11	4
in Infrastructure/ Technologies	*in* Innovative Universities	*in* Crisis Management	*in* Visionary Leadership

LEADING CHANGE THROUGH SUSTAINABILITY

QS WORLD UNIVERSITY RANKINGS: SOCIAL IMPACT RANKED 2025

RANKED

QS WORLD UNIVERSITY RANKINGS
SUSTAINABILITY RANKINGS 2025

382	811
Overall Performance For Governance	Overall Performance
885	**995**
Overall Performance For Environmental Impact	Overall Performance For Social Impact



RECOGNISED FOR *Excellence*



Awarded Graded Autonomy and 12 (B) status granted by University Grant Commission.

Chitkara University has been awarded an A+ grade by the NAAC, placing it in the top 5% of higher education institutions in India.

Our institutions are ranked among elite
Pharmacy Ranked 16th | Architecture ranked 38th | Management ranked 78th
Engineering ranked 89th and University ranked 78th.

Ranked amongst the world's best in QS World University Rankings: Asia 2025.

Overall: 10th in India and in the rank band 301-400 Globally;
In SDG17: 1st & SDG11: 3rd In India & in the rank band 101-200 Globally.

Chitkara University in top Ranked 19th in India as per UI Green Metric World University Ranking 2024.

Top 10 Universities of the country for filing maximum number of patents;
Chitkara Innovation Incubator Foundation secured 1st position for filing maximum number of Industrial Designs as per the IPO.

One of Cleanest Universities of India in the "Swachhata Rankings".

Chitkara University Shines in World WURI Rankings 2025-4th in Visionary Leadership, 8th in Infrastructure/Technologies and 96th Among Top 400 Innovative Universities.

Chitkara University is in the Top 100 as per SCIMAGO Institutions Rankings 2025 for Research & Innovations.

Consistently Achieved High Ranks By:

CHITKARA UNIVERSITY

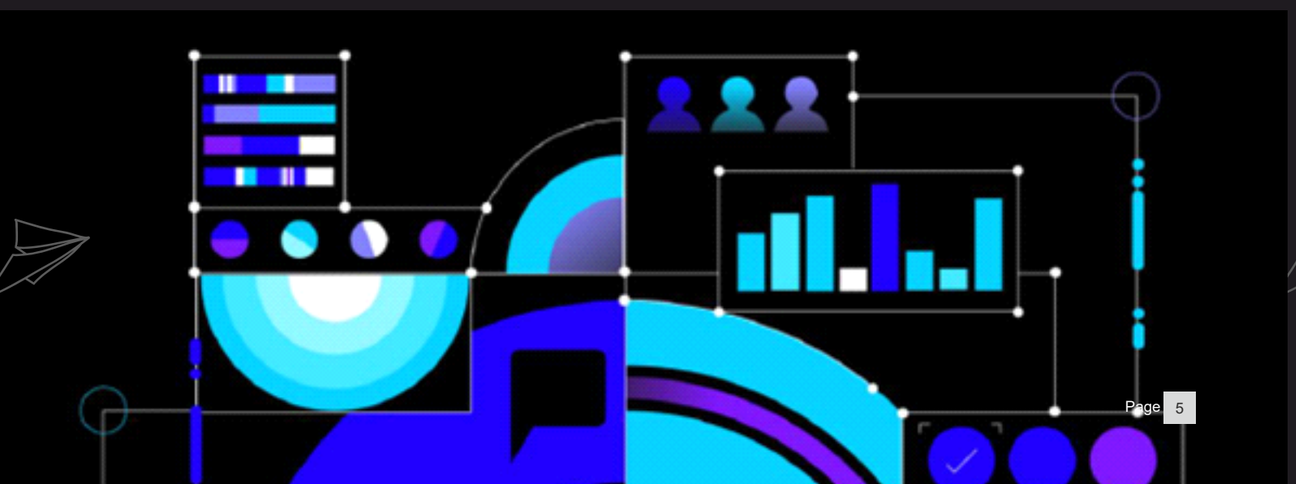
RANKED

1st

IN INDIA

IN RESEARCH QUALITY

THE World University Rankings 2025



CHITKARA UNIVERSITY

THE World University Rankings 2025

9th

Ranked in India
In Overall

38th
Ranked in India
In International Outlook

72nd
Ranked in India
In Research Environment

81st
Ranked in India
In Industry

92nd
Ranked in India
In Technology

DON'T JUST ACQUIRE KNOWLEDGE
CREATE IT

World-Class Research Excellence

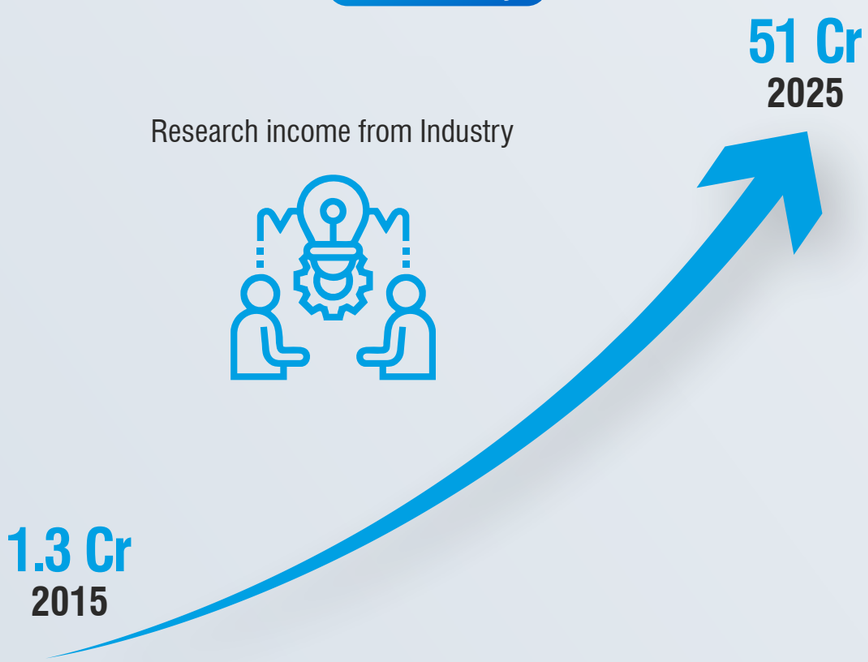


Extramural Funding

Major Funding Agencies

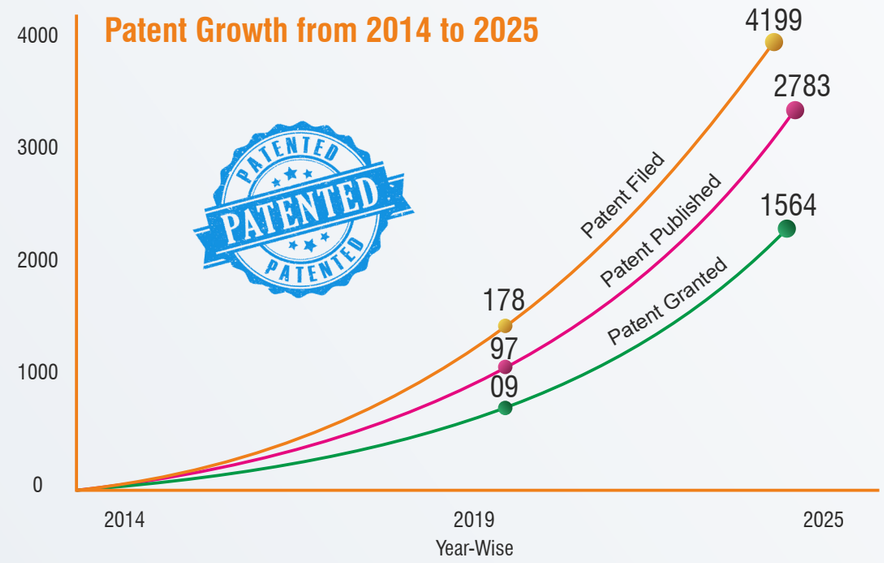
Department of Science & Technology
MeitY Government of India
BPIIT
NIDHI PRAYAS
Erasmus+
GNSERB DIA
Entrepreneurship Development Institute of India

Consultancy



Research income from Industry

Patents

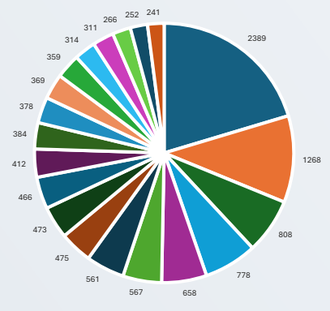


Publication

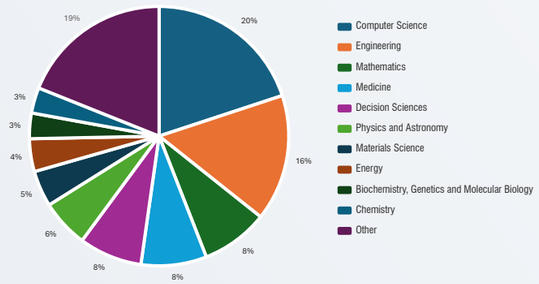
Total Publications	19500+
Citations	150000+
International Co-Authorship	3200+
Number of Collaborating Countries	110
Number of Collaborating Organizations	200
SDG Mapped Publications	15000+

H-Index 130

Top Collaborating Countries with Publication Count



Subject Wise Publications



HIGHLY RANKED BY

A+ NAAC | NIRF National Institutional Ranking Framework | Intellectual Property India | QS World University Rankings Asia 2025 | THE Impact Rankings | THE World University Rankings 2025

CHITKARA UNIVERSITY

Moving Forward

with the

Sustainable Development Goals



1 NO POVERTY

Research and Development

Chitkara University's research initiatives, such as **Parivartan** for scientific awareness among rural women and the **Community Resilience Resource Centre (CRRC),** focus on poverty alleviation by empowering rural communities. The university supports underprivileged students, offers consultancy on rice cultivation and fosters entrepreneurship through CIIF. These efforts promote sustainable economic growth, regional development and long-term poverty reduction.

Educational Outreach & Curriculum Development

We aim to empower underprivileged communities by providing skill-based education, financial aid and community training. The university equips individuals with employment-ready skills, while partnerships enhance these efforts through practical training, digital literacy and entrepreneurship support. This ensures that education fosters sustainable socio-economic development and poverty reduction. The **'Earn While You Learn'** program and outreach initiatives, such as clothing distribution to those in need, help students gain real-world experience.

Sustainable Campus Operations

We provide diverse scholarships to talented students from economically weaker sections, enabling them to acquire practical experience and financial stability during their studies. Additionally, we assist underprivileged individuals in obtaining employment by offering training in hospitality. The university strives to engage with the community through various charity events and donation drives for farmers and those in need.

Student & Faculty Engagement

Our university combats poverty by providing scholarships to economically disadvantaged students and offering vocational training programs. Initiatives such as hospitality training and employment support help underprivileged individuals achieve financial stability. In 2024–25, the university organized 20 programs for faculty and students under SDG 1. These efforts, along with community outreach, charity drives and educational programs, promote inclusive growth and local development.

Community Partnership & Social Impact

The partnership with organizations like Kisan Sanchar, which supports agricultural communities and Halfway Homes or Old Age Home Sehyog, which assist vulnerable populations, directly aligns with SDG 1: No Poverty. These collaborations focus on improving the economic and social well-being of marginalized groups. Through these initiatives, students engage in programs that provide access to resources, skills training and support, helping lift individuals out of poverty. These partnerships drive social impact by fostering sustainable solutions for poverty reduction, empowering communities and contributing to long-term economic and social development.

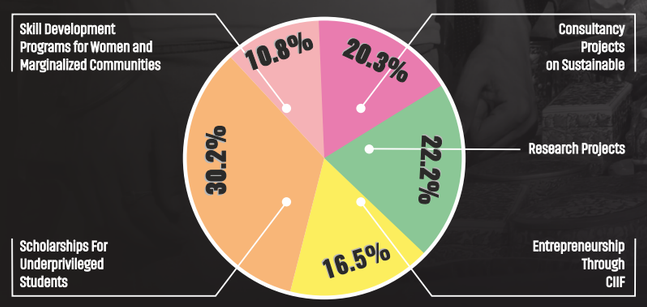
Publication
23

Scholarship Granted to Economically Weaker Students:
4900+

Empowering Individuals
200+ in 5 Adopted Villages

Outcome & Achievement

Chitkara University's achievements demonstrate its commitment to **SDG 1: No Poverty** through education and innovation. Recognized as the top institution in Punjab for multidisciplinary education and among the most innovative by Education World and CII, it also ranks highly for employability (Education Post-IIRF) and placements (ZEE Edu Future). These accolades highlight the university's role in providing quality education and career opportunities, empowering communities, and driving economic growth.



CHITKARA UNIVERSITY INITIATIVES

Providing Hope: 24 Lakh+
Financial Support Across Multiple Causes

17
Student & Faculty Activities (2024-25)

About **Parivartan**

The DST-NCSTC project ***"Parivartan – Creating Scientific Awareness among Rural Women for Improving Quality of Life"***, launched in February 2023, aimed to empower rural women and students through expert sessions, hands-on workshops, and exhibitions. Covering **Education, Healthcare, and Career Counseling,** the initiative benefited around **1,600 participants** from Rajpura Region (Patiala, Punjab). It focused on skill development, scientific awareness, women's health, and inspiring young females to pursue careers in science.

1 NO POVERTY

ACHIEVEMENTS

- **Ranked 1st in Punjab for multidisciplinary education (Education World)**
- **Top 5 Innovative Institutes (CII), Chitkara fosters skills that enhance employbility**
- **6th Rank for Employability (Education Post-IIRF)**
- **Award for the "Outstanding University for Training and Placements"(Zee Edufuture Awards)**

PUBLICATIONS

Conference Paper



1 Design thinking review for evidence handling in digital forensics process
Singh, G., Markan, R., Verma, V., Harsh, P., Aggarwal, S.
AIP Conference Proceedings, 2024

2 Pigpen Cipher 9-Grid Characters Classification Using Enhanced CNN Deep Learning Architecture
Kaur, G., Sharma, N., Malhotra, S., Devliyal, S., Gupta, R.
2024 IEEE International Conference on Information Technology, Electronics and Intelligent Communication Systems, ICITEICS 2024

3 Analysis of how microfinance affects socioeconomic development
Homavazir, M., Mishra, S., Purohit, A., Umakanth, S., Sharma, S.
Multidisciplinary Science Journal, 2024

4 Exploring human attitudes and psychology to understand the impact of microfinance on the insurance sector
Homavazir, M., Mishra, S., Tak, T., Rai, S., Suri, S.
Multidisciplinary Science Journal, 2024

5 The Evolution of Cryptocurrencies: Analysis of Bitcoin, Ethereum, Bit connect and Dogecoin in Comparison
Agarwal,M., Singh Gill,K.S., Upadhyay,D., Dangi,S., Ravi Chythanya,K.
2024 IEEE 9th International Conference for Convergence in Technology, I2CT 2024

6 Malaria Disease Detection using Convolutional Neural Network Architecture
Kaur,G., Sharma,N., Malhotra,S., Devliyal,S., Singh,S.P.
2024 3rd International Conference for Innovation in Technology, INOCON 2024

7 A Convolutional Neural Network-Based Method for Real- Time Eye State Identification in Driver Drowsiness Detection
Singh Gill,K.S., Anand,V., Chauhan,R., Thapliyal,S., Gupta,R.
2023 3rd International Conference on Smart Generation Computing, Communication and Networking, SMART GENCON 2023

8 Phishing Site Detection Using Logistic Regression and Fine Tuning It Using Various Optimization Parameters
Singla,M., Singh Gill,K.S., Chauhan,R., Pokhariya,H.S., Banerjee,D.
2023 3rd International Conference on Smart Generation Computing, Communication and Networking, SMART GENCON 2023

9 Role of IOT and its Trends in Data Driven Systems Using AI
Singla,N.
2023 3rd International Conference on Advancement in Electronics and Communication Engineering, AECE 2023

10 How mobile banking resistance behaviour affects financial inclusion in India?
Mehta,K., Rani,A.
International Journal of Business and Globalisation, 2023

11 An Intelligent System for Dysarthria Classification of Male and Female Processed Dataset using Sequential Model Parameters
Singh Gill,K.S., Anand,V., Gupta,R.
Proceedings of the 2023 2nd International Conference on Augmented Intelligence and Sustainable Systems, ICAISS 2023

12 Augmenting Transparency and Reliability for National Health Insurance Scheme with Distributed Ledger
Sharma,I., Kaushik,K., Chhabra,G.
2023 4th International Conference on Electronics and Sustainable Communication Systems, ICESC 2023 - Proceedings, 2023

13 Forex trend analysis using RNN and LSTM models: Predictive analytics through neural networks
Birdi,N., Sarangi,P.K., Singla,T., Sahoo,A.K., Subudhi,G.B.
Proceedings of International Conference on Computational Intelligence and Sustainable Engineering Solution, CISES 2023

14 A Study of Increasing Adoption Trends of Digital Technologies - An Evidence from Indian Banking
Gupta,C., Jindal,P., Khanna,R.
AIP Conference Proceedings, 2022

15 Financial Literacy and Financial Inclusion: A Systematic Literature Review
Kaur,A., Verma,R.
ECS Transactions, 2022

16 Gini coefficient based wealth distribution in the bitcoin network: A case study
Gupta,M., Gupta,P.
Communications in Computer and Information Science, 2018



Book Chapter

1. ENTREPRENEURSHIP AND FRUGAL INNOVATION FOR REALISING SDGs IN GLOBAL CONTEXT
Prakash,N., Sharma,S., Jindal,P.
Contemporary Studies in Economic and Financial Analysis, 2024

2. Empowering the Unbanked: The Intersection of Financial Inclusion and CBDC
Inder,S.
The Framework for Resilient Industry: A Holistic Approach for Developing Economies, 2024

3. The role of internal audit in risk management with a perspective of sustainability development
Choudhary,V., Trivedi,S.
The Impact of Climate Change and Sustainability Standards on the Insurance Market, 2023

4. A study on challenges to sustainable development
Kaur,B., Kaur,H.
The Impact of Climate Change and Sustainability Standards on the Insurance Market, 2023

5. ICT's critical role in financial inclusion: An opportunity for India
Tandon,D., Sood,D.
Contemporary Studies of Risks in Emerging Technology: Part B, 2023



3. A Simplified and Affordable Arsenic Filter to Prevent Arsenic Poisoning: Lab-Scale Study and Pilot Experiment
Panda,A.P., Jha,U., Kumar,S.A., Swain,S.K.
ACS ES and T Water, 2023

4. A secured industrial wireless iot sensor network enabled quick transmission of data with a prototype study
Pandithurai,O., Urmela,S., Murugesan,S., Nagu,B.
Journal of Intelligent and Fuzzy Systems, 2023

5. Socioeconomic Inequalities in the Prevalence of Non-Communicable Diseases among Older Adults in India
Khura,B., Mohanty,P., Patnaik,L., ... Khubchandani,J., Padhi,B.K.
Geriatrics (Switzerland), 2022

6. Validation of machine learning models for health insurance risks assessment
Singh,A., Ramkumar, K.R.
International Journal of Engineering and Advanced Technology, 2019

7. Sustainability strategies in the Indian leather industry: an empirical analysis
Gupta,S.K., Gupta,S., Dhamija,P., Bag,S.
Benchmarking, 2018

8. Future of depository with introduction of payment bank: A game changer to capital market
Mahajan,V., Sharma,R.
International Journal of Applied Business and Economic Research, 2017

9. A study of adoption and resistance behavior for mobile banking in India
Rani,A., Mehta,K.
International Journal of Applied Business and Economic Research, 2017

Article

1. Assessing and prioritizing biogas energy barriers: A sustainable roadmap for energy security
Feng,Y., Shoaib,M., Akram,R., ... Ai,F., Irfan,M.H.
Renewable Energy, 2024

2. Mapping the evolution of financial inclusion: a retrospective overview using bibliometric analysis
Suryavanshi,U., Chaudhry,R., Arora,M., Mittal,A.
Global Knowledge, Memory and Communication, 2024



Together for a Future

Without Poverty





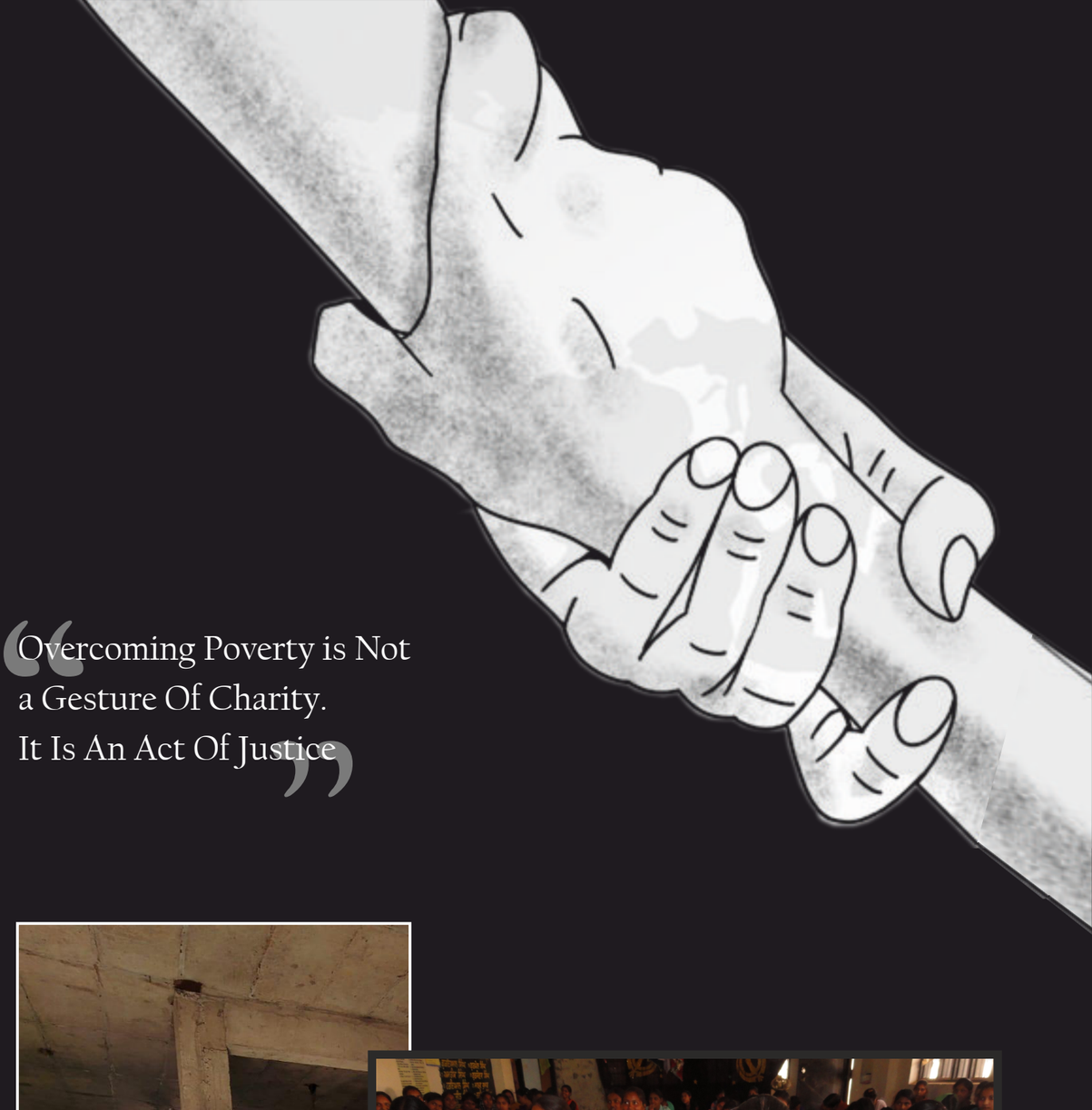












“Overcoming Poverty is Not
a Gesture Of Charity.
It Is An Act Of Justice”





2 ZERO HUNGER

Research and Development

Chitkara University's research projects, including the ***AI-Driven Precision Farming with IoT and GIS, Tractor Mounted Integrated Retrofit (MOKSH 2.0) for converting straw to value-added powder, BhuGoal: A Smart Weather Monitoring System and Rice Cultivation Consultancy,*** focus on organic farming, sustainable mushroom production and innovative crop technologies. These initiatives enhance food security, combat malnutrition, support farmers and promote long-term agricultural sustainability, empowering local communities for a healthier future.

Educational Outreach & Curriculum Development

We promote food security and sustainable agriculture through targeted educational outreach and curriculum initiatives. By incorporating courses like food production, nutrition, Food & Beverage Application and food technology into its programs, the university equips students to address food scarcity challenges. Community outreach projects provide training in sustainable farming, nutrition and resource management, enhancing local farmers' productivity. These innovative practices empower both students and communities, fostering long-term food security and a resilient food supply chain.

Sustainable Campus Operations

Chitkara University has implemented an efficient way to manage leftover food by distributing it to laborers on campus as part of the university's CSR initiative. These efforts reduce environmental impact while promoting sustainability in food resource management.

Student & Faculty Engagement

Chitkara University's SDG 2 efforts include the "Green Plate Initiative", where leftover hostel food is distributed to campus laborers, supporting food security and reducing waste. Students participate in sustainable farming practices at Yellow Point Farms, learning organic farming, vertical farming and mushroom production. Faculty and students engage in training programs and agricultural consultancy, contributing to sustainable agriculture and food security. In 2024–25, 19 programs were organized.



Community Partnership & Social Impact

Chitkara University actively supports SDG 2: Zero Hunger through community partnerships focused on food security and sustainable agriculture. Collaborating with organizations like Kisan Sanchar, the university engages students in projects that improve farming practices, nutrition and food distribution in rural areas. Initiatives such as World Food Day raise awareness of hunger and food security issues, while the university's efforts directly benefit local agricultural communities. These projects contribute to hunger reduction and enhance food sustainability, creating a long-term social impact in underserved regions.



Outcome & Achievement

Chitkara University demonstrates its commitment to **SDG 2: Zero** Hunger through **sustainable agricultural practices, food security initiatives, and innovation.** With **NABL accreditation,** the university supports **food technology research, patents, and Agri-tech startups** to address hunger and promote sustainable food systems. Additionally, **Chitkara University's Central Instrumentation Facility (CUCIF),** accredited by **NABL for chemical and biological testing of water samples,** plays a crucial role in ensuring **water quality for agriculture and food production,** further strengthening its contribution to sustainable food security and community well-being.

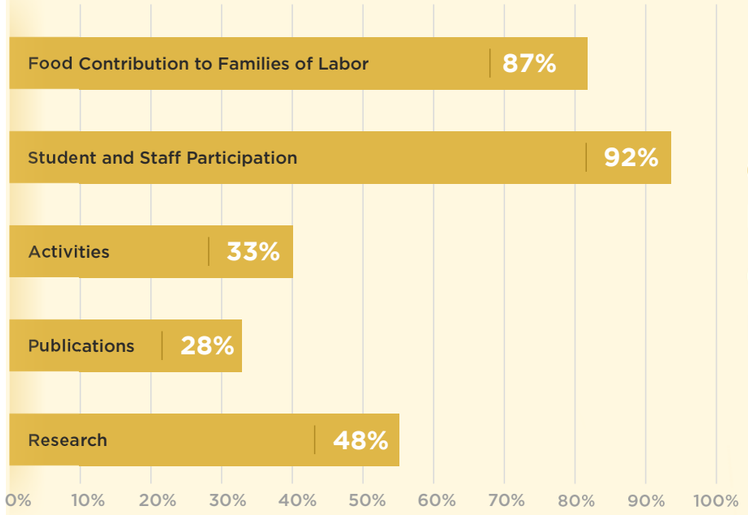


Green Plate Initiative

Nourishing 2000+ Labor Families with Food Support

Publication
351

Green Plate Initiative
2000+ Peoples



Chitkara University Contributions Distribution

PUBLICATIONS

Conference Paper

1 Wireless sensor network sampling and routing framework for greenhouse monitoring
Kochhar,A., Kumar,N., Sharma,P.S.
AIP Conference Proceedings, 2024

2 IoT-enabled deep learning framework for accurate animal head tracking
Chabra,G., Dua,B., Kaushik,S., ... Sethi,M., Kansal,I.
AIP Conference Proceedings, 2024

3 Fabrication of Biodegradable Polymer Nanocomposites for Sustainable Agriculture
Sobti,R., Singh,M.P., Correa,F.S., Brar,M., Karuna Kumar,D.K.
E3S Web of Conferences, 2024

4 Enhancing precision agriculture with CNN models for maize leaf disease detection
Singh,J., Singh,J., Chona,V., Bali,M.S., Gupta,I.
AIP Conference Proceedings, 2024

5 Enhancing Coffee Plant Disease Identification with EfficientNetB0 and Deep Learning
Bhoomika,n., Verma,G.
8th International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud), I-SMAC 2024 - Proceedings, 2024

6 Deep Learning based Bean Leaf Lesion Classification utilizing EfficientNetV2-S
Singla,S., Gupta,R.
8th International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud), I-SMAC 2024 - Proceedings, 2024

7 The Role of Deep Learning in Transforming Cassava Leaf Disease Diagnosis
Kant,V., Singh Gill,K.S., Malhotra,S., Devliyal,S.
Proceedings - 1st International Conference on Electronics, Communication and Signal Processing, ICECSP 2024, 2024

8 Automated Multiclass Classification of Groundnut Leaf Diseases Using Fine-Tuned InceptionV3 Model
Kaur,A., Sharma,R., Chattopadhyay,S., Verma,A.
2024 2nd World Conference on Communication and Computing, WCONF 2024, 2024

9 Cotton Leaf Disease Classification Using Fine-tuned VGG16 Deep Learning Model
Kaur,A., Sharma,R., Chattopadhyay,S., Joshi,K.
2024 2nd World Conference on Communication and Computing, WCONF 2024, 2024

10 Improved Celery Variety Classification in India using CNN-KNN Hybrid Model
Kaur,A., Sharma,R., Upadhyay,D., Manwal,M.
2024 2nd World Conference on Communication and Computing, WCONF 2024, 2024

11 Classification of Indian Broccoli Varieties: Comparative Analysis of CNN and AdaBoost Models
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RESEARCH PROJECTS

Project Name: BhuGoal: A Smart Weather Monitoring System

Climate change is a worldwide concern these days. It is notably influencing Indian agriculture, which depends heavily on precise weather predictions. Satellite weather forecasts, however, are often insufficiently precise to minimize these challenges. On a rainy day, our team observed that television signals faded away just before rainfall and then restored as the sky cleared. Building on this observation, we developed a predictive device. By collecting data and implementing intelligent algorithms, we created a hardware device connected between the LNB and the transceiver to achieve accurate, localized rain prediction.

This innovation not only improves weather prediction but also supports local and regional governments by enhancing early warning systems for climate-related risks. By providing precise, real-time rain forecasts, the device can inform government agencies about imminent heavy rainfall, enabling them to issue timely alerts and take preventive actions. Furthermore, continuous data collected through this technology can contribute to long-term monitoring, which aids in formulating regional climate resilience strategies, especially for agricultural communities. This tool could thus serve as a vital component in climate change disaster risk management, empowering governments to safeguard communities and assets through informed decision-making.



49.35 Lakhs
Dr. Nitin Kumar Saluja
By DST, New Delhi

49.35 Lakhs

Dr. Nitin Kumar Saluja
By DST, New Delhi



Project Name: Tractor Mounted Integrated Retrofit (Moksh 2.0) for On-field Conversion of Straw to Value Added Powder

Moksh is a tractor mounted machine that instantly converts agricultural waste into bio-fuel and addresses the pressing problem of stubble burning that causes air pollution.

This patented and commercialized technology by a faculty start-up, GFF Innovations Pvt. Ltd. uses non-thermal drying process to eliminate moisture from the agricultural waste resulting in 100 times faster drying when compared with convection dryers and 20 times compression in the volume of straw when compared with bundling.

Engaging Students & Staff in Dynamic Activities

















3 GOOD HEALTH AND WELL-BEING

Research and Development

Chitkara University projects such as the **Smart Ergonomic Portable Commode Chair, Automatic Screening of Diabetic Retinopathy and the development of self-healing hydrogels** focus on improving healthcare accessibility and quality. Additionally, research on the pharmacological modulation of seizures, Parkinson's disease treatments and diabetic wound healing advances medical knowledge, enhances patient care and promotes overall well-being.

Future Health Professionals
643

Community Partnership & Social Impact

The collaboration with local, national and international healthcare organizations such as **Fortis Healthcare, Amar Hospital Patiala, Ocular Surface Laboratory- University of Aukland, New Zealand etc.** provides students with hands-on experience in addressing global health challenges, particularly in rural healthcare and tele consultation. These initiatives focus on mental health, chronic disease management and healthcare innovation, there by improving healthcare systems and outcomes. The partnerships enhance accessibility, quality and awareness, drive social impact, reduce health in equalities and promote better health out comes both locally and globally.

Educational Outreach & Curriculum Development

Chitkara University integrates health sciences, pharmacy, nursing and nutrition into its programmes to promote well-being among students beongs to local communities and disadvantaged people. Community health camps, wellness workshops and telemedicine services extend healthcare access to underserved areas, providing essential screenings and health education. Research initiatives in public health, along with partnerships with healthcare organisations, further empower students and wider communities, foster healthier lifestyles, enhance healthcare awareness and contribute to overall community well-being.

Publication
960

Health Camps
63

Sustainable Campus Operations

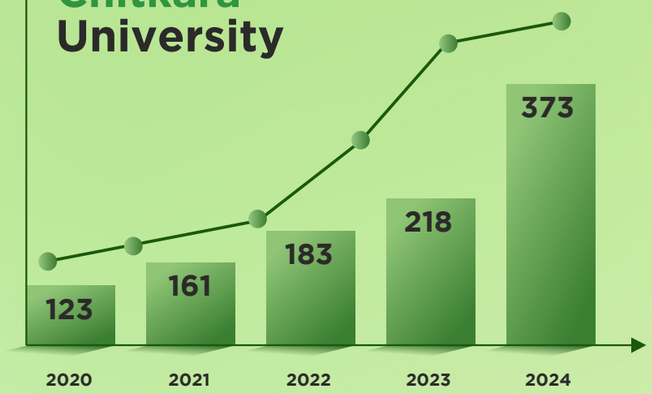
Chitkara University is dedicated to ensuring healthy lives and promoting overall well-being for all the stakeholders. The University provides free access to health and wellness facilities, including regular health check-ups, Sexual & Reproductive Health Services, modern sports amenities, a Counseling Centre and a Happiness Centre. These initiatives aim to reduce health issues, manage stress and enhance mental wellness. Regular meditation and yoga sessions are organized for students and staff, fostering a balanced lifestyle and a culture of holistic well-being across the campus.

Patents
93

Collaboration
20



Student Activities organized by **Chitkara University**



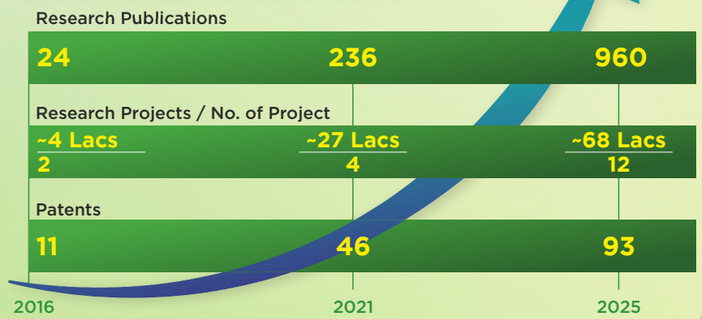
CHITKARA HAPPINESS CENTRE

Chitkara Happiness Centre for Good Health Well-Being

Student & Faculty Engagement

Demonstrating its strong commitment to community well-being, the University organized 373 activities for students and the wider community, many focused on health outreach and awareness. These student-led initiatives supported diverse groups through health sessions, medical camps and drives on hygiene, nutrition and family planning. The Campus Counseling Centre offers free mental health support, while the Happiness Centre fosters well-being through programmes on mindfulness, exercise and healthy aging. Together, these efforts highlight the University's dedication to creating a healthier and more inclusive society, particularly for communities that include both local populations and disadvantaged groups.

Research Impact





Outcome & Achievement

Chitkara University has earned significant recognition for its contributions to SDG 3: Good Health and Well-Being. It achieved the prestigious **Diamond Band Status** in India's **Mental Health and Well-Being Ranking** as part of the **R World Institutional Ranking,** highlighting its commitment to mental health initiatives. **The Chitkara College of Pharmacy** is recognized for its excellence in pharmaceutical education, while the university also received the **Runner-Up Award** for **Nursing Education Excellence** at the **ICC National Nursing Excellence Awards,** reflecting its commitment to advancing healthcare education.



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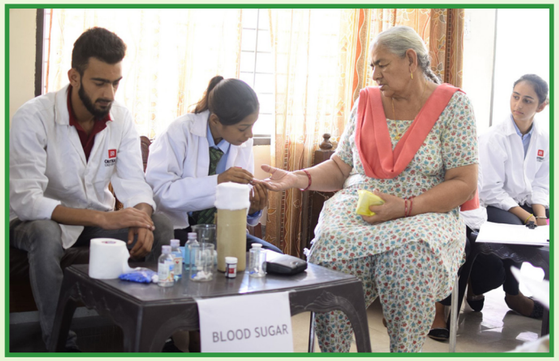
2 Marburg virus disease Mayhem: A new threat emerges in Rwanda
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Building
Healthier Communities
One Step at a Time.









GOOD HEALTH



















3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

Educational Outreach & Curriculum Development

Development: Chitkara University promotes quality and inclusive education through skill-based learning, digital literacy and global collaborations. The University offers free access to libraries, computers, campus facilities and equipment, along with open access to online resources and courses that lead to certificates for individuals beyond the campus community. In alignment with the UN Sustainable Development Goals, it provides lifelong learning opportunities through platforms like SWAYAM, ensuring accessible, high-quality education for learners of all ages and backgrounds.

Research and Development

Chitkara University boosted research with over 156 publications aligned with SDG 4 goals. The focus on quality education enhances learning experiences and promotes innovative educational practices. Research projects such as **Skill to Enterprise Model (STEM), Ed-Immerse,** which integrate immersive technology in STEM education and teacher training programs that teach mathematics through origami foster creativity and future readiness. Additionally, initiatives like Industry 4.0 compliance and STEM skill development for school children empower students and educators with cutting-edge knowledge and skills.

Publications
156

Patents
51

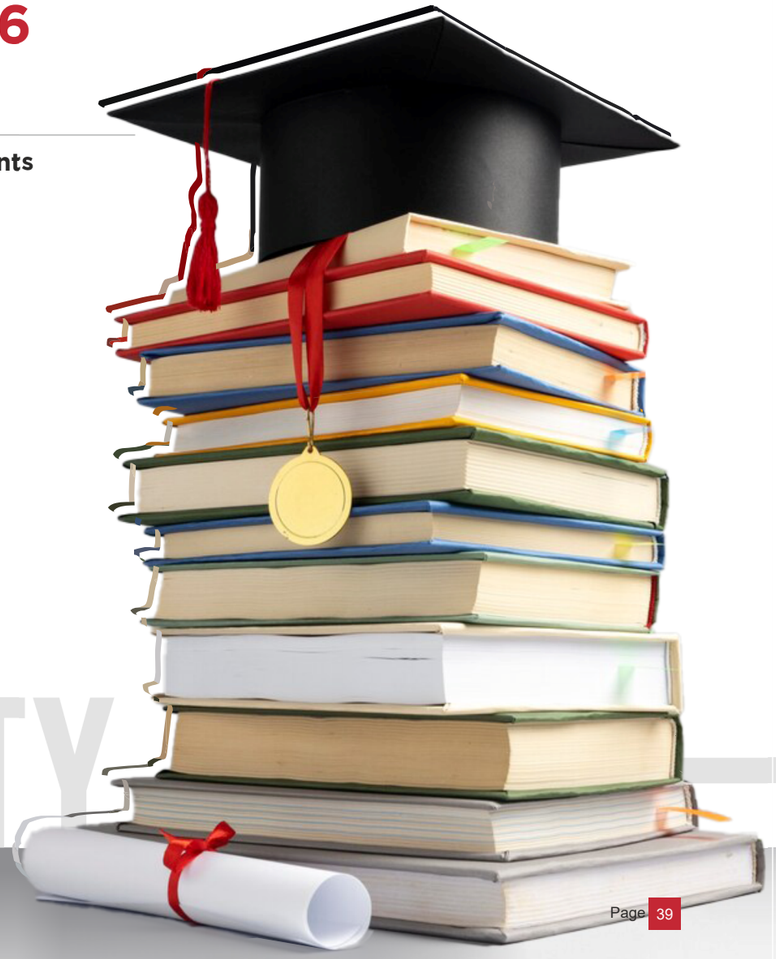
78%
Graduates Qualify to Teach Primary School Level

Community Partnership & Social Impact

At Chitkara University, education goes beyond classrooms to create real community impact. Through initiatives like Global Week, Chitkara Mandi and Cultivating Community Connections, the University partners with local organizations to promote inclusive learning, digital literacy and lifelong education. The "Education Reach Beyond Campus" initiative strengthens these efforts, offering engagement opportunities on an ad-hoc or programmed basis, thereby empowering students and communities to collaborate, learn and grow together for a sustainable and inclusive future.

Collaboration
80

Industry Visits:
66

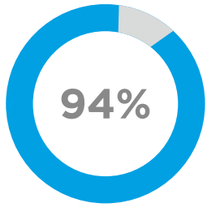


QUALITY EDUCATION

Sustainable Campus Operations

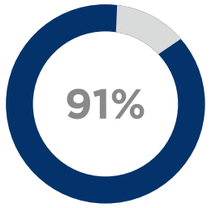
The most significant focus of Chitkara University's curriculum is on SDG 4, with the highest number of subjects dedicated to ensuring inclusive and equitable quality education. This reflects the university's commitment to providing access to quality education for all, fostering a generation of students equipped to solve complex global challenges. The emphasis on education also strengthens the role of teachers, researchers and educational professionals in shaping a sustainable future.

Workshops, Conferences & scholarships



Quality education through scholarships, skill building workshops, and international collaborations

Outreach Activities

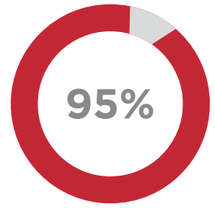


Faculty and students engage in outreach initiatives to enhance digital literacy and learning in rural areas

Student & Faculty Engagement

Chitkara University promotes inclusive quality education through scholarships, skill building workshops and international collaborations. Faculty and students engage in outreach initiatives to enhance digital literacy and learning in rural areas. Programs—such as Hackathon, Ideathon, BAJA SAEINDIA, and Chitram—encourage lifelong learning, career readiness and global citizenship, fostering an education that empowers students and communities to thrive in a knowledge-based economy.

Research Projects



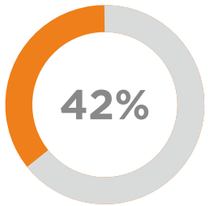
Development for School Children Empower Students



Outcome & Achievement

Chitkara University is committed to SDG 4: Quality Education, emphasizing academic excellence, innovation and inclusivity. It has earned a prestigious NIRF ranking, cementing its position among India's top institutions. Additionally, it is recognized among Punjab's top private multidisciplinary universities (Education World 2024), leading business schools (IIRF 2024) and premier pharmacy institutions (Career360). With accolades for research, employability, and faculty quality, the university continues to set benchmarks in higher education, ensuring global standards and transformative learning experiences.

First Generation Students



Preparing Students for Academic Advancement

PUBLICATIONS

Conference Paper

1. Investigating the system and service quality of online learning portals in North India leading to establishment of new paradigms
Singh Sidhu,H.J., Khanna,M.S., Kaur,I., Khare,A.K.
AIP Conference Proceedings, 2024

2. Cloud Computing Applications in Online Learning
Lata,M., Kumar,V., Sharma,V.
15th International Conference on Advances in Computing, Control, and Telecommunication Technologies, ACT 2024, 2024

3. Automated Alzheimer's Disease Detection using ResNet50: Innovations and Insights
Sharma,J.
8th International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud), I-SMAC 2024 - Proceedings, 2024

4. Classification of Shells and Pebbles Using CNN with MobileNetV2 Transfer Learning
Singh,R.K., Sharma,N., Upadhyay,D., Devliyal,S., Pal,A.
2024 2nd World Conference on Communication and Computing, WCONF 2024, 2024

5. Optimizing Logistic Regression for Flawless Fraud Detection in Digital Payments
Kant,V.
2nd International Conference on Intelligent Cyber Physical Systems and Internet of Things, ICoICI 2024 - Proceedings, 2024

6. Classifying True and Fake News Using LSTM Architecture
Kant,V.
2nd International Conference on Intelligent Cyber Physical Systems and Internet of Things, ICoICI 2024 - Proceedings, 2024

7. Chicken Disease Detection: A Deep Learning Approach
Verma,G.
2nd International Conference on Intelligent Cyber Physical Systems and Internet of Things, ICoICI 2024 - Proceedings, 2024

8. Exploring the Capabilities of Unity 3D Gaming Software
Kohli,D., Khurana,D., Singh,B., Kaur,A., Sachdeva,P.
2024 OPJU International Technology Conference on Smart Computing for Innovation and Advancement in Industry 4.0, OTCON 2024, 2024

9. An Efficient CNN-Based System for Classifying Pepper Bell Plant Conditions
Singh,R.K., Sharma,N., Upadhyay,D., ... Singh,A., Singh,R.
5th International Conference on Electronics and Sustainable Communication Systems, ICESC 2024 - Proceedings, 2024

10. Investigation on the impact of swimming on children with ADHD
Marwaha,P., Homavazir,M., Mathad,P., Sharma,N., Varma,P.
Multidisciplinary Science Journal, 2024

11. A Deep Learning Approach for Knee Osteoarthritis Classification Using Convolutional Neural Networks
Singh,R.K., Sharma,N., Upadhyay,D., Devliyal,S., Singh,A.
2024 IEEE International Conference on Information Technology, Electronics and Intelligent Communication Systems, ICITEICS 2024, 2024

Article



1. Improving crop production using an agro-deep learning framework in precision agriculture
Logeshwaran,J., Srivastava,D.K., Kumar,K.S., ... Getahun,M., Soufiene,B.O.
BMC Bioinformatics, 2024

2. Breast lesions segmentation from ultrasound images using DeepLabV3 + model with channel and spatial attention mechanism
Aggarwal,S., Garg,M., Kumar,A., Kapila,R.
Discover Sustainability, 2024

3. Cocreating innovative academia theory and practice to strengthen institutional positioning
Nayyar,V., Mittal,A.
Information Discovery and Delivery, 2024

4. Optimization countermeasures for high-quality development of green economy driven by environmental regulations, carbon emission reductions, and efficiency enhancements
Li,Q., Chen,H., SHARMA,S.S., Singh,R., Abbas,M.A.E.
Stochastic Environmental Research and Risk Assessment, 2024

5. Investigation of Microstructural and Mechanical Characteristics of Friction Stir Welded Aluminum Alloy 7075-t6
Dhairiyasamy,R., Gabiriel,D., Kandasamy,M., Rajendran,S.
Transactions of the Indian Institute of Metals, 2024

6. AI student success predictor: Enhancing personalized learning in campus management systems
Shoaib,M., Sayed,N., Singh,J., ... Khan,S., Ali,F.
Computers in Human Behavior, 2024

7. A novel methodology using RNN + LSTM + ML for predicting students academic performance
Kukkar,A., Mohana,R., Sharma,A., Nayyar,A.
Education and Information Technologies, 2024

8 How does age and gender of the employees influence human resource practicesemployee competencies relationship?
Kaur,S.

Evidence-based HRM, 2024

9 Fostering Higher-Order Thinking: Pedagogical Strategies in Engineering Education
Bhaumik,K., Sudhakara Reddy,S., Datta,A., Ismayel,G., Mabu Sarif,B.

Journal of Engineering Education Transformations, 2024

10 QoS-enhanced load balancing strategies for metaverse-infused VR/AR in engineering education 5.0
Singh,K.D., Singh,P.D.

Computer Applications in Engineering Education, 2024

11 Augmented reality based interactive table-top environment for real-time visualization of control theory concepts: An empirical study
Kaur,D.P., Mantri,A.

Education and Information Technologies, 2024

12 Predictors of continued intention of working professionals for pursuing e-learning courses for career advancement
Deshpande,A., Raut,R., Gupta,K., ... Ekbote,N., Kaul,N.

Information Discovery and Delivery, 2024

13 Unraveling the Essence of Entrepreneurship Education in Hospitality and Tourism: A Qualitative Exploration of Indian Entrepreneurs Insights
Sharma,M.K., Ramaprasad,B.S., Jamwal,M., Phadke,R.A., Nidhisha,H.

Prabandhan: Indian Journal of Management, 2024

14 Stakeholders perspective towards employability: a hybrid fuzzy AHP-TOPSIS Approach
Bhattacherjee,A., Kukreja,V., Aggarwal,A.

Education and Information Technologies, 2024

15 Design of an AI-Driven Feedback and Decision Analysis in Online Learning with Google BERT
Srivastav,G., Kant,S., Srivastava,D.K.

International Journal of Intelligent Systems and Applications in Engineering, 2024

16 Role of transformational leadership in implementation of Education 4.0: a parallel mediation model in context of higher educational institutions (HEIs)
Kaur,S., Mittal,A.

Global Knowledge, Memory and Communication, 2024

17 Detection of Pine Wilt Disease Using AAV Remote Sensing With an Improved YOLO Model
Wang,L., Wang,T., Zhao,J., Gadekallu,T.R., Fang,K.

IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2024

18 Predicting normalized difference vegetation index using a deep attention network with bidirectional GRU: a hybrid parametric optimization approach
Khodadadi,N., Towfek,S.K., Zaki,A.M., ... Abdelhamid,A.A., Eid,M.M.

International Journal of Data Science and Analytics, 2024

19 A Collaborative Recommendation Algorithm for Course Resources in Multimedia Distance Education Based on Fuzzy Association Rules
Liu,E., Gadekallu,T.R.

Mobile Networks and Applications, 2024

Review

1 Sensors, society, and sustainability
Chaudhary,V., Gaur,P., Rustagi,S.

Sustainable Materials and Technologies, 2024

2 The impact of augmented reality on education: a bibliometric exploration
Singh,S.P., Kaur,A., Gulzar,Y.

Frontiers in Education, 2024

Short Survey

1 Comparative analysis of frequently used e-learning platforms
Prabha,C.N., Durgesh Nandan,D., Bhosale,S.

Frontiers in Education, 2024

Book Chapter

1 The impact of the student-centered learning approach on dentistry students' oral academic presentations
Yaseeni,P., Grima,S., Kizilkaya,Y.M., Sood,K.

Digital Analytics Applications for Sustainable Training and Education, 2024

2 Digital Analytics Applications for Sustainable Training and Education
Sood,K., Kalia,P., Grima,S., Chaudhary,A.

Digital Analytics Applications for Sustainable Training and Education, 2024

3 Integrating digital citizenship education in the contemporary educational ecosystem
Malik,K.

Digital Analytics Applications for Sustainable Training and Education, 2024

4 Role of metaverse in the education sector
Jindal,P., Jindal,A., Sharma,D.

Augmented Reality and the Future of Education Technology, 2024

5 An introduction to generative AI tools for education 2030
Sandhu,R., Channi,H.K., Ghai,D., Cheema,G.S., Kaur,M.

Integrating Generative AI in Education to Achieve Sustainable Development Goals, 2024

6 Unleashing the potential of digital entrepreneurship: A strategic roadmap
Malhotra,N., Joshi,F., Gupta,S.

Digital Entrepreneurship: Future Directions, 2024

7 ENTREPRENEURSHIP AND FRUGAL INNOVATION FOR REALISING SDGs IN GLOBAL CONTEXT
Prakash,N., Sharma,S., Jindal,P.

Contemporary Studies in Economic and Financial Analysis, 2024

8 ENABLING SUSTAINABILITY IN HIGHER EDUCATION VIA PERCEIVED EMPLOYABILITY, UNIVERSITY COMMITMENT, PERCEIVED ORGANISATIONAL PRESTIGE AND STUDENT SATISFACTION: A PLS-SEM APPROACH
Agnihotri,S., Mewafarosh,R., Malhan,S.

Contemporary Studies in Economic and Financial Analysis, 2024

9 ENHANCING SUSTAINABILITY THROUGH A QUALITY-CENTRIC APPROACH
Kaur,B., Rajput,A., Garg,A.

Contemporary Studies in Economic and Financial Analysis, 2024

10 New business frontiers in the Metaverse
Inder,S., Dawra,S., Tennin,K.L., Sharma,S.

New Business Frontiers in the Metaverse, 2024

10 SKILL SHORTAGES AND LABOUR MARKET RIGIDITY: AN INTERNATIONAL OUTLOOK
Gupta,M., Jindal,P., Kaur,M.

Contemporary Studies in Economic and Financial Analysis, 2024

11 SKILL DEVELOPMENT IN ORGANISATIONS: CONCEPTUAL FRAMEWORK AND OPERATIONAL STRATEGIES
Shalender,K., Sharma,N.

Contemporary Studies in Economic and Financial Analysis, 2024

12 Effectiveness of the Udaan Scheme in Addressing Career Development Challenges for Educated Youth in Jammu and Kashmir
Singh,H., Kumar,N., Suman,S.R.

The Framework for Resilient Industry: A Holistic Approach for Developing Economies, 2024

13 BRIDGING THE SKILL GAP OF INDIAN HANDICRAFT INDUSTRY WORKERS: AN ANALYSIS OF THE PROBLEMS AND REMEDIES FOR HANDICRAFT ARTISANS
Yadav,U.S., Aggarwal,R., Tripathi,R., Kumar,A.

Contemporary Studies in Economic and Financial Analysis, 2024

14 A STUDY OF THE 21ST CENTURY 4Cs SKILL GAP IN THE INDIAN PRIVATE SECTOR
Bhat,I.H., Gupta,S.

Contemporary Studies in Economic and Financial Analysis, 2024

14 Empowering Safety: A Deep Dive Into AI and Machine Learning Solutions for Women's Security
Pattnaik,O., Nayak,M., Pani,S., Kumar,R., Sharma,B.

AI Tools and Applications for Women's Safety, 2024

15 Role of AR and VR Technology in Transforming Education Ecology
Kaur,G., Kaur,H.A., Goyal,S., Kaur,V., Kaur,P.

Augmented Reality and Virtual Reality in Special Education, 2024







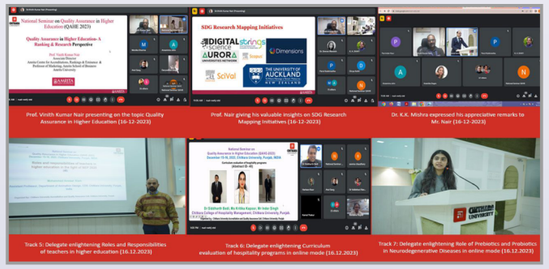














5 GENDER EQUALITY

Research and Development

Chitkara University actively promotes gender equality through research and initiatives aligned with SDG 5. Research Projects ***"Health education among rural woemn and their upliftment through Digital literacy, Parivartan – Creating Scientific Awareness Among Rural Women"*** *and* ***"Health Education and Digital Literacy for Rural Women"*** empower women by enhancing their access to education, health resources, and digital skills. These efforts foster inclusive development, uplift rural women, and reduce gender disparities.

Publications
14

Collaboration
33

Women Starting a Degree

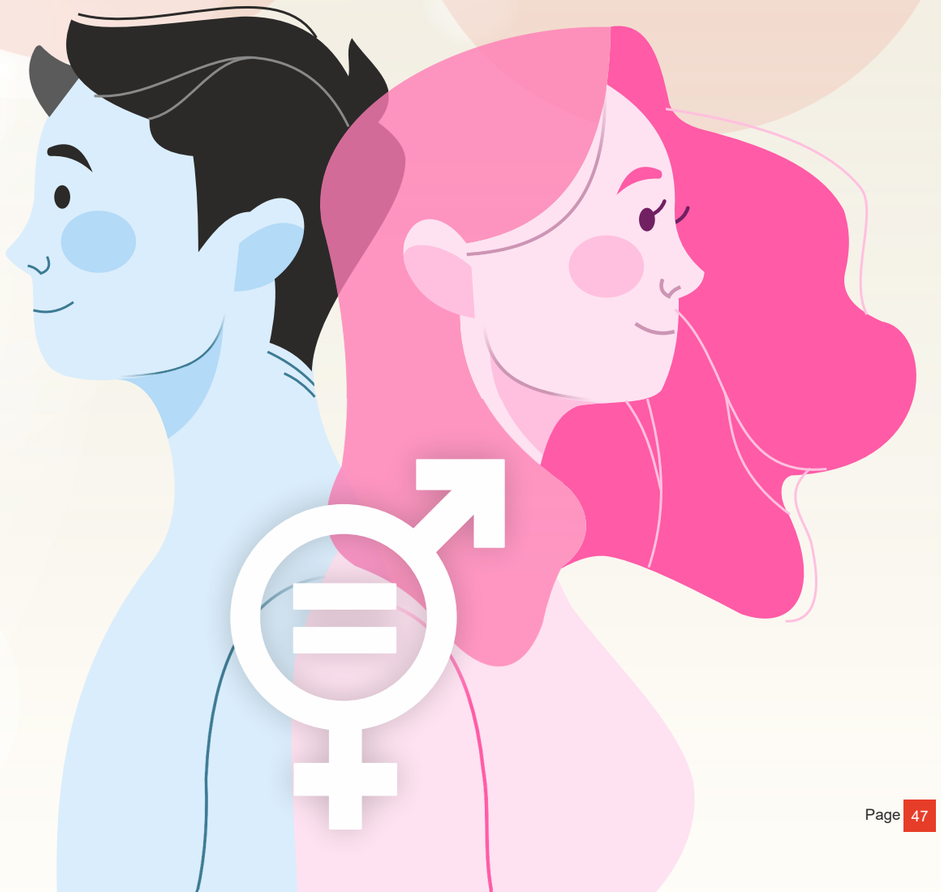
Total	First Gen.
43%	33%

Educational Outreach & Curriculum Development

Gender equality at Chitkara University is promoted through inclusive academic practices, community outreach and meaningful collaborations. The University places special emphasis on encouraging applications from women in subjects where they are traditionally underrepresented. Through outreach efforts and partnerships with other universities, community groups, government bodies and NGOs, it contributes to regional and national gender-equality campaigns. Leadership training, entrepreneurship modules, gender studies, empowerment workshops, mentorship programmes and scholarships further strengthen this commitment. Policies ensuring gender parity in admissions, faculty roles and community engagement help create an equitable learning environment with equal opportunities for all.

Sustainable Campus Operations

Chitkara University aims a safe and inclusive campus by offering free creche facilities, maternity/paternity leave and mentoring and counseling sessions for all. With strict anti-discrimination policies, the University ensures equal opportunities and a supportive environment where everyone can thrive with dignity and balance.



Community Partnership & Social Impact

The Visit of Delegates from Griffith University at Chitkara University emphasizes gender equality in leadership and academic exchange. With leaders like Ashini Malhotra, the event promotes equal opportunities in education and research, fostering community partnerships and advancing SDG 5 for social impact in higher education

Gender Diversity In Teaching

50.31%	49.69%

Outcome & Achievement

Chitkara University, Punjab, has earned accolades for its commitment to **SDG 5: Gender Equality.** It has been recognized nationally by organizations such as **R. World Institutional Ranking - MHW** for faculty, staff, and student well-being and is a leader in Punjab for research and employability by **Education Post-IIRF.** The university promotes gender equality, empowerment, and equal opportunities, advancing inclusive practices across its campus.

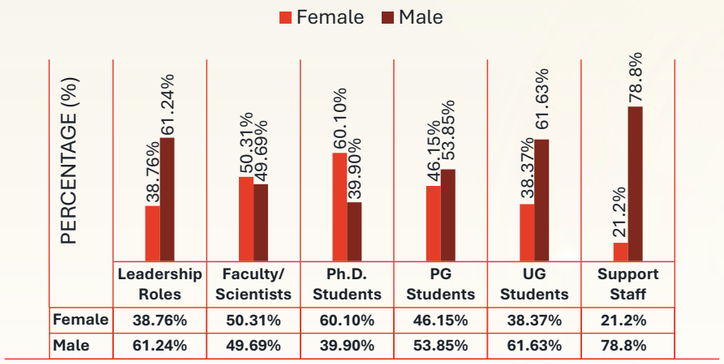


Student & Faculty Engagement

Chitkara University is committed to advancing gender equality by empowering women through scholarships, mentorship programs, and leadership opportunities. Faculty and students participate in campaigns advocating for women's rights and gender-sensitive policies. The university creates a safe, inclusive environment, promoting women in STEM fields and providing platforms for female voices in academic and professional spaces.

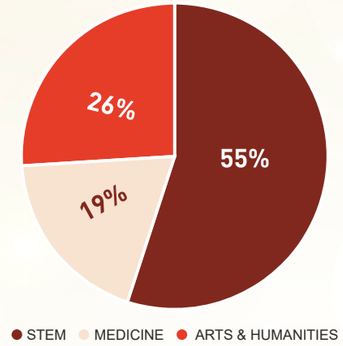
Posh Awareness Training	Student Activities
07	117

GENDER PARITY (OVERALL DOMAINS)



	Leadership Roles	Faculty/ Scientists	Ph.D. Students	PG Students	UG Students	Support Staff
Female	38.76%	50.31%	60.10%	46.15%	38.37%	21.2%
Male	61.24%	49.69%	39.90%	53.85%	61.63%	78.8%

FEMALE GRADUATES BY SUBJECT AREA



PUBLICATIONS

Conference Paper

1 Gendered spatial segregation in traditional residences: Havelis of Rajasthan, India
Bhandari,H., Singhal,A., Lisha,
AIP Conference Proceedings, 2024

2 Cutting-Edge Patterns of Preemption: Classifying Violent Incidents with CNN-SVM Intelligence
Suryavanshi,A., Mehta,S., Tiwari,D., Aeri,M., Jain,V.
2024 2nd World Conference on Communication and Computing, WCONF 2024, 2024

3 Diabetes mellitus patients' mental responses to COVID-19 and its treatment
Desai,K., Ghosal,S., Goyal,B., Pallavi,, Patel,D.J.
Multidisciplinary Science Journal, 2024

4 Cause and Effect of Dementia on Women in Technological Environment
Sardana,A., Monga,C.
Lecture Notes in Networks and Systems, 2024

5 Counseling and reintegration into the workforce after experiencing discrimination due to anxiety
Kapoor,T., Yadav,A., Agrawal,S., Homavazir,Z., Nilkant,D.
Multidisciplinary Science Journal, 2024

6 Counseling and reintegration into the workforce after experiencing discrimination due to anxiety
Kapoor,T., Yadav,A., Agrawal,S., Homavazir,Z., Nilkant,D.
Multidisciplinary Science Journal, 2024

7 Analysis of how microfinance affects socioeconomic development
Homavazir,M., Mishra,S., Purohit,A., Umakanth,S., Sharma,S.
Multidisciplinary Science Journal, 2024

8 Age and Gender Detection using Deep Learning
Singla,R., Singh,G.
2023 7th International Conference On Computing, Communication, Control And Automation, ICCUBEA 2023, 2023

9 Developing the Antecedents of Perceived Barriers to Aid Decision-Making for Safeguarding the Sustainability of Intangible Heritage
Bhandari,H., Bansal,K., Mittal,A.
2023 International Conference on Decision Aid Sciences and Applications, DASA 2023, 2023

10 Exploring Common Areas and Types of Cybercrime in Today's Digital Landscape
Kalra,K., Tiwari,R.G.
2023 3rd Asian Conference on Innovation in Technology, ASIANCON 2023, 2023

11 Impact of Women's Autonomy and Socio-economic Factors on Delivery Assistance in Bangladesh
Ahmmed,M.M., Kumar Mohapatra,S.K., Babu,M.A., ... Rahman,M.M., Mohanty,J.
International Conference on Applied Intelligence and Sustainable Computing, ICAISC 2023, 2023

12 Fog-Centric Intelligent Surveillance System: A Novel Approach for Effective and Efficient Surveillance
Singh,P.D., Singh,K.D.
2023 International Conference on Advancement in Computation and Computer Technologies, InCACCT 2023, 2023

13 Gender Contrasts in Employer's Perspectives in the Recruitment of Fresh Engineering Graduates in the Information Technology Sector
Correa,F.S., Chand,P.K., Mittal,A.
Proceedings - 2022 IEEE World Conference on Applied Intelligence and Computing, AIC 2022, 2022

14 Technology Adoption Intention as a Driver of Success of Women Architect Entrepreneurs
Mittal,A., Bhandari,H.
2021 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies, 3ICT 2021, 2021

Article

1 Espoused model of women entrepreneurship: antecedents to women entrepreneurial intention and moderating role of entrepreneurial self-efficacy
Sharma,N., Sinha,E., Shalender,K.
Journal of Enterprising Communities, 2024

2 Interrelationship between Share of Women in Parliament and Gender and Development: A Critical Analysis
Sarangi,S., Singh,R.K., Thakur,B.K.
Administrative Sciences, 2023

3 Male preference in television advertisements for financial services: a content analysis (2011 vs. 2018)
Sandhu,N.
International Journal of Business and Globalisation, 2023

4 Medicalization of sexuality and sexual health: A perspective review
Goyal,R., Chandran,D., Goyal,R., ... Chopra,H., Dhama,K.
Journal of Experimental Biology and Agricultural Sciences, 2022

5 Exploring the teachers perception towards educational inclusion: A study of teachers in pune, india
Sharma,A., Malik,R., Nagy,H.
Journal on Efficiency and Responsibility in Education and Science, 2022

6 Do entrepreneurship educational programmes build startup skills among indian women? A government initiative
Verma,J.

International Journal of Sociotechnology and Knowledge Development, 2022

7 Fueling Gender Stereotypes: A Content Analysis of Automobile Advertisements
Sandhu,N.

Business Perspectives and Research, 2019

8 Impact of Gender Cues in Advertisements on Perceived Gender Identity Meanings of the Advertised Product
Sandhu,N.

FIIB Business Review, 2018

9 Impact of Structural Empowerment on Organizational Commitment: The Mediating Role of Womens Psychological Empowerment
Aggarwal,A., Dhaliwal,R.S., Nobi,K.

Vision, 2018

Review

1 Inequalities in cardiovascular disease among elderly Indians: A gender perspective analysis using LASI wave-I (2017-18)
Padhi,B.K., Singh,S.K., Gaidhane,A.M., ... Arora,M., Satapathy,P.

Current Problems in Cardiology, 2024

2 Breaking Barriers: A Review of Career Transition Trends for Women
Deshpande,A., Kaul,N., Mittal,A., Bhandari,H., Raut,R.

Open Psychology Journal, 2023

3 Monkeypox (mpox) in immunosuppressed patients
Ahmed,S.K., Mohamed,M.G., Dabou,E.A.A., ... Chopra,H., Dhama,K.

F1000Research, 2023

Book Chapter

1 The impact of climate change and sustainability standards on the insurance market
Sood,K., Grima,S., Young,P.C., Özen,E., Balamurugan,B.

The Impact of Climate Change and Sustainability Standards on the Insurance Market, 2023

2 Location based analysis of the service gap between customer perceptions and expectations in the services provided by cab aggregators
Singh,A., Wadhawan,C., Rani,R.

Enhancing Customer Engagement Through Location-Based Marketing, 2023

3 Marking a Legacy as an Edupreneur: Dr. Madhu Chitkara
Inder,S., Saluja,S., Sharma,S., Kaur,H.

Cases on the Resurgence of Emerging Businesses, 2023



MADHU
Secured **Gold Medal** in Under 56 Kg Weight Category at the National Kickboxing Championship



Chitkara University
Faculty Honored with Marex Maritime Women Empowerment Award





SURYA CHARISHMA
Wins **Gold Medal** in the Under-19 Girls' singles at the Yonex Sunrise All India Ranking Tournament









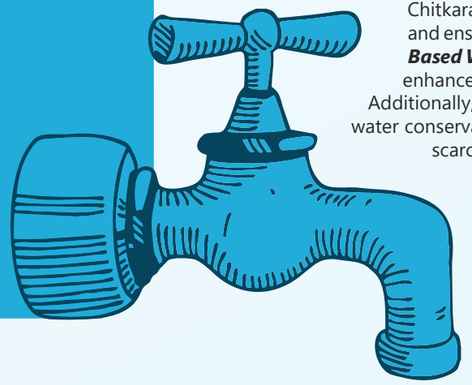








6 CLEAN WATER AND SANITATION



Research and Development

Chitkara University focus on research for improving water quality and ensuring sustainable water management. Projects ***Earthen Pot-Based Water Purification System and Greywater Treatment Unit*** enhance access to clean water through innovative filtration methods. Additionally, initiatives like the ***Water Saving Color Coded Tap*** promote water conservation, addressing critical global challenges related to water scarcity and sanitation.

Educational Outreach & Curriculum Development

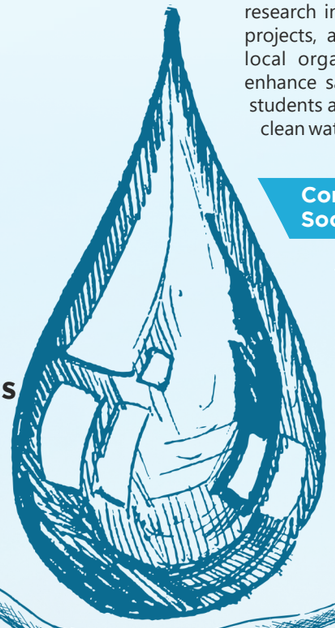
We support clean water and sanitation through curriculum initiatives and outreach programs focused on water conservation and sanitation. The university offers courses in environmental science, disaster risk management, green building and rating systems for preparing students to tackle water-related challenges. Center for Water Sciences (CWS) has been established for research in the related field. Water Community outreach projects, awareness campaigns, and collaborations with local organizations promote water conservation and enhance sanitation in underserved areas and empowers students and communities, ensuring sustainable access to clean water and improved sanitation.

Publications
164

Patents
24

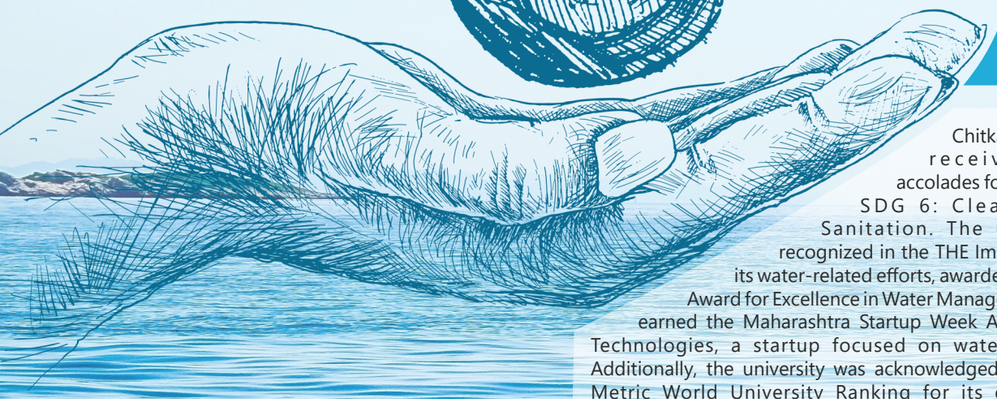
Harvesting Pits:
18

Student Activities
30



Community Partnership & Social Impact

Through community partnerships, Chitkara University actively works on improving water access and sanitation, aligning with **SDG 6: Clean Water and Sanitation.** Initiatives like **World Environmental Health Day** and **World Environment Day** raise awareness on the importance of clean water, encouraging sustainable practices and improving community health and hygiene.



Outcome & Achievement

Chitkara University has received multiple accolades for its dedication to SDG 6: Clean Water and Sanitation. The university was recognized in the THE Impact Rankings for its water-related efforts, awarded the CII National Award for Excellence in Water Management (2022), and earned the Maharashtra Startup Week Award for Aumsat Technologies, a startup focused on water sustainability. Additionally, the university was acknowledged in the UI Green Metric World University Ranking for its efforts in water conservation and waste management and received the Water Sustainability Award for innovation in water technology.

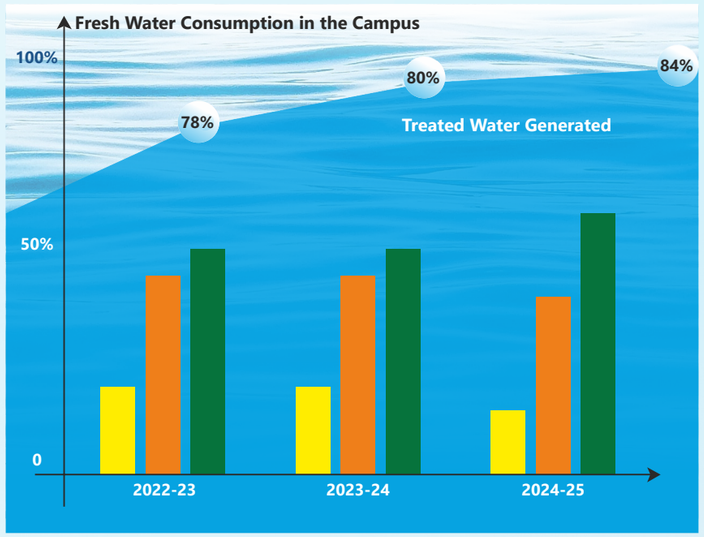
Sustainable Campus Operations

The University ensures 24×7 access to clean, quality-tested and free drinking water, while promoting awareness on responsible usage. Its Sewage Treatment Plant, based on MBBR technology, enables 84% of wastewater to be recycled and reused through dual plumbing, horticulture, drip irrigation and Karnal technology. Groundwater extraction through aquifers is carefully managed using electromagnetic flow meters to monitor and regulate usage. All campus buildings follow water-conscious design standards with efficient fixtures to minimize wastage. The total water consumption from the main network is monitored annually and preventive measures are in place to address accidental water pollution, reaffirming the University's commitment to a safe, sustainable and water-resilient campus.



Student & Faculty Engagement

Activities such as the World Water Day, Save Water Campaign, and faculty training programs integrate water conservation and sanitation awareness. Events like cleanliness drives, water conservation workshops, and creative competitions foster a culture of sustainability, encouraging students and staff to actively contribute to safeguarding water resources and promoting hygiene.



Treatment Process

- Primary Treatment
- Secondary or Biological treatment
- Tertiary treatment
- Sludge Treatment

Highlights

MoU with the Department of Water Resources, River Development & Ganga Rejuvenation, Government of India for the "**National Mission for Clean Ganga.**

Treated Water Used in

- Dual Plumbing
- Horticulture
- Karnal Technology

CLEAN WATER AND SANITATION

PUBLICATIONS

Conference Paper

1. Wireless sensor network sampling and routing framework for greenhouse monitoring
   Kochhar, A., Kumar, N., Sharma, P.S.
   AIP Conference Proceedings, 2024

2. Formulating housing proposal for the resettlement of dam-displaced population - Case of Parbati Irrigation Project, Rajgarh, Madhya Pradesh
   Verma, N., Bansal, K.
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3. Multiclass classification of rice leaf disease using transfer learning
   Kaur, A., Guleria, K.
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   Bhalla, L., Saxena, A., Sharma, P., ...Krishna, P.V., Vyas, A.
   E3S Web of Conferences, 2024

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1. Recent advances and prospects on the r-GO incorporated metal oxide semiconductors for enhanced photo-adsorptive abatement of toxic wastewater pollutants
   Shukla, G., Rani, M.R., Shanker, U., Baigenzhenov, O.S., Hosseini-Bandegharaei, A.
   Journal of Water Process Engineering, 2025

2. A comprehensive review of spinel ferrites and their magnetic composites as highly efficient adsorbents of rare earth elements
   Rafie, S.F., Abu-Zahra, N.H., Sillanpää, M.A.
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3. Integrating artificial intelligence in nanomembrane systems for advanced water desalination
   Sundaram, T., Nagappan, B., Devarajan, Y., Bhumika,
   Results in Engineering, 2024

4. A systematic review on applications of biochar and activated carbon derived from biomass as adsorbents for sustainable remediation of antibiotics from pharmaceutical wastewater
   Zango, Z.U., Garba, A., Haruna, A., ...Yuguda, A.U., Adamu, H.
   Journal of Water Process Engineering, 2024

5. Strategically engineering advanced nanomaterials for heavy-metal remediation from wastewater
   Sable, H., Kumar, V., Singh, V.K., ...Chahal, S., Chaudhary, V.
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   Lee, S.Y., Tan, Y.H., Sie Yon, L., ...Chan, Y.S., Adeoye, J.B.
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7. Magnesium ferrites and their composites based photocatalysts: Synthesis approaches, effect of doping, and operational parameters on photocatalytic performance for wastewater remediation
   Jasrotia, R., Raj, K., Suman, u., ...Kumar, Y., Kandwal, A.
   Journal of Magnesium and Alloys, 2024

8. A state-of-art review on photovoltaic systems: Design, performance, and progress
   Saxena, A.K., Kumar, R., Sagade, A.A., ...Cuce, E., Goel, V.K.
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9. Comprehensive analysis of photocatalytic and photoreactor challenges in photocatalytic wastewater treatment: A case study with ZnO photocatalyst
   Kazemi Hakki, H., Sillanpää, M.A.
   Materials Science in Semiconductor Processing, 2024

10. Biodiversity, mechanisms, and potential biotechnological applications of minerals solubilizing extremophilic microbes: A review
    Devi, R., Kaur, T., Negi, R., ...Kour, D., Yadav, A.N.
    Journal of Applied Biology and Biotechnology, 2024

11. Advanced photocatalysis as a viable and sustainable wastewater treatment process: A comprehensive review
    Ahtasham Iqbal, M., Akram, S., Khalid, S.W., ...Chinibayeva, N.S., Hosseini-Bandegharaei, A.
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Article

1. In-situ treated ZnO/Fe2O3 nanocomposites synthesized via microwave for enhanced Photo-Fenton photocatalysis and antimicrobial efficacy
   Manikandan, V., Elango, D., Subash, V., ...Sutikno, S., Soup Song, K.
   Materials Science and Engineering: B, 2025

2. Flat plate solar collector activated with alumina-silicon dioxide-copper oxide hybrid nanofluid: Thermal performance study
   Venkatesh, R.P., Hossain, I., Mohanavel, V., ...Ali Alharbi, S., Al-Obaid, S.M.
   Applied Thermal Engineering, 2024

3. Effect of gasification input parameters and KOH catalyst action on functional properties of hydrogen production from municipal wastewater
   SOUDAGAR, M.E.M., Singh, R.P., Bhooshanam, N.N., ...Alotaibi, M.A., Seikh, A.H.
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4. The first and cost-effective nano-biocomposite ZnPor/rGO/TiO2 as efficient UV photocatalysts for ethylparaben decomposition
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5. Optimizing silt density index prediction in water treatment systems using pressure-based gradient boosting hybridized with Salp Swarm Algorithm
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8. Cost-benefit analysis of implementing a solar powered water pumping system – A case study
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9. A novel catalyst based on zero-valent iron nanoparticles for assisting electro-fenton process applied to a toxic wastewater
   Mohammadi, M., Davarnejad, R., Sillanpää, M.A.
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10. DDANF: Deep denoising autoencoder normalizing flow for unsupervised multivariate time series anomaly detection
    Zhao, X., Liu, P., Mahmoudi, S., ...Kaddoum, G., Hassan, M.M.
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11. Entropy for q-rung linear diophantine fuzzy hypersoft set with its application in MADM
    Surya, A.N., Vimala, J., Kausar, N., Stevic, Z., Shah, M.A.
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12. Enhancing solar still performance with Plexiglas and jute cloth additions: experimental study
    Dumka, P., Mishra, D.R., Singh, B., ...Lakshmaiya, N., Shah, M.A.
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13. Green Synthesis of Ag-Doped ZnO Nanoparticles Using Bael (A. marmelos) Leaves for Wastewater Remediation
    Zango, Z.U., Garba, A., Haruna, A., ...Yuguda, A.U., Adamu, H.
    ECS Journal of Solid State Science and Technology, 2024

14. Per- and poly-fluoroalkyl substances in aquatic ecosystems and wastewater treatment works in Africa: Occurrence, ecological implications, and future perspectives
    Miiro, A., Odume, O.N., Nyakairu, G.W.A., ...Mubiru, E., Ssebugere, P.
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15. Efficient photodegradation of doxycycline and photoreduction of nitrobenzene via a dual S-scheme WO3/Cu2O/Ag3PO4 heterojunction
    Mandyal, P., Chauhan, V., Priye, A., Sillanpää, M.A., Shandilya, P.
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16. Integrating deep learning techniques for effective river water quality monitoring and management
    Chellaiah, C., Anbalagan, S., Swaminathan, D., ...Sharma, B., Amesho, K.T.
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17. Investigating the performance of CoFe2O4@TiO2 nanomaterial as multifunctional cathode catalyst for simultaneous dye degradation and oxygen reduction in microbial desalination cell
    Sahni, M., Mishra, R.K., Gupta, A., ...Malik, A.S., Jadhav, D.A.
    Desalination, 2024

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    Ahlawat, S., Kumari, H., Monica,, ...Kumar, P., Kumar, A.M.
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21 Bryophyllum pinnatum activated biochar for competent removal of fluoride from water: sorption and equilibrium studies

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22 Optimization and prediction of dye adsorption utilising cross-linked chitosan-activated charcoal: Response Surface Methodology and machine learning

Shukla, A.K., Alam, J., Mallik, S., ...Kumar Kesari, K.K., Alhoshan, M.S.

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23 Role of cadmium gallate nanoparticles on the cathode of microbial fuel cells for enhanced bioelectricity production

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24 Fast decomposition of organic contaminant in wastewater using Zn and Mn bimetallic metal organic frameworks

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Polyhedron, 2024

25 Adsorption parameters optimization of spent coffee ground biochar for methylene blue removal using response surface methodology

Nagarajan, T., Binti Mohd Fekeri, N.H., Raju, G., ...Rustagi, S., Khalid, M.

Chemosphere, 2024

26 Fabrication and characterization of ceramic tubular composite membranes using slag waste materials for oily wastewater treatment

Shiwa, S., Khosravi, A., Abbasi, M.R., Mohammadi, F., Sillanpää, M.A.

Journal of Environmental Management, 2024

27 Waste Water Treatment Using Piezoelectric Materials: A Review on Piezo-photocatalysis

Singh, K.K., Verma, R., Chauhan, A., ...Thakur, P., Thakur, A.

Topics in Catalysis, 2024

28 Single and binary adsorption of paracetamol and diclofenac onto biochar produced from pepper stem: Which adsorption properties change in the binary system?

Azri, N., Chebbi, R., Ouakouak, A., ...Prakash, C., Hosseini-Bandegharaei, A.

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29 Exploring the role of microbial fuel cells in sustainable wastewater treatment and energy generation

Kumar, R.P., Nagabhooshanam, N., Bhatia, H.S., Sharma, P., Reddy, K.R.

Global Nest Journal, 2024



30 Impact of Cu and La on the structural, morphological, magnetic, photocatalytic, and antibacterial traits of cobalt spinel nanoferrites

Sharma, G., Jasrotia, R., Nidhi, A.V., ...Kandwal, A., Kumar, G.K.

Ionics, 2024

31 An empirical intelligent water irrigation system using soft computing and IoT

Patel, W.D., Yalamanchili, D.S., Gopagoni, D.R., ...Sunil, M.P., Kolandaisamy, R.A.

International Journal of Information Technology (Singapore), 2024

32 Enhanced catalytic degradation of organic dye by Sn1-xLaxO2 nanoparticles under UV light for wastewater treatment

Kumari, H., Ahlawat, S., Sharma, S., ...Kumar, A.M., Parmar, R.

Journal of Photochemistry and Photobiology A: Chemistry, 2024

Book Chapter

1 Role of Green Investment on Economic Aspects Of Sustainable Development

Kaur, R., Tanwar, A.

Contemporary Studies in Economic and Financial Analysis, 2024

Erratum

Open access

1 Correction to: Enhancing solar still performance with Plexiglas and jute cloth additions: experimental study (Sustainable Environment Research, (2024), 34, 1, (3), 10.1186/s42834-024-00208-y)

Dumka, P., Mishra, D.R., Singh, B., ...Lakshmaiya, N., Shah, M.A.

Sustainable Environment Research, 2024

Chitkara University

awarded the Confederation of Indian Industry (CII) National Award for Excellence in Water Management



Chitkara University was awarded the prestigious Confederation of Indian Industry (CII)- National Award for Excellence in Water Management 2022 at CII's flagship event 'Water Innovation Summit' held on September 29th, 2022, at Hotel Shangri-La Eros, New Delhi.

Chitkara University, Punjab was assessed and evaluated by an independent jury of National and International repute among a wide range of entries and awarded as The Winner in the "Within the Fence" category.

CII National Awards for Excellence in Water Management recognize the efforts of universities/institutions/industries towards making India's water secure through various water conservation initiatives in areas of operations, innovation, or CSR activities.

The remarkable award for Chitkara University validates the dedicated and motivated efforts put in by the staff, especially team infra and maintenance for the wonderful water management initiatives carried out in line with the United Nations SDG.

Chitkara University

Receives Prestigious Water Sustainability Award



Chitkara University's commitment to water sustainability and innovation has been recognised once again as its Centre for Water Sciences, under the Chitkara University Research and Innovation Network (CURIN), was honoured with the 3rd Water Sustainability Award. This esteemed accolade, presented in the 'Innovation in Water Technology' category, was conferred by The Energy and Resources Institute (TERI) during a gala awards ceremony held in New Delhi, in collaboration with the United Nations Development Programme (UNDP) and the Ministry of Jal Shakti, Government of India.

Dr. Archana Mantri, Vice Chancellor, Chitkara University, Punjab, and Dr. Jyotsna Kaushal, Professor at the Centre for Water Sciences, CURIN, graciously accepted the award on behalf of Chitkara University. The recognition underscores the university's unwavering commitment to pioneering research and innovation in water awareness, management, and technology.

The Centre for Water Sciences at Chitkara University stands as a distinguished NABL-accredited facility, renowned for its groundbreaking research initiatives in the field of water sciences. With a rich portfolio of patents and publications in esteemed journals, the Centre is at the forefront of driving advancements in water sustainability and technology.

6TH	12TH	12TH	13TH	20TH
IN INDIA & 201-300 BAND GLOBALLY	IN INDIA & 101-200 BAND GLOBALLY	IN INDIA & 401-600 BAND GLOBALLY	IN INDIA (OVERALL RANKING)	IN INDIA & 401-608 BAND GLOBALLY
SDG9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	SDG7 AFFORDABLE AND CLEAN ENERGY	SDG13 CLIMATE ACTION		SDG17 PARTNERSHIPS FOR THE GOALS.





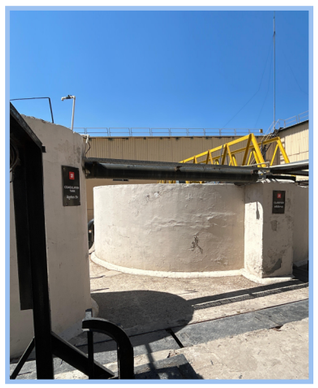


















7 AFFORDABLE AND CLEAN ENERGY

Research and Development

Chitkara University actively fosters research in clean and renewable energy. Student projects emphasize sustainability, such as the ***Retrofitted E-Bike*** and ***E-Cycle***, which use scrap materials from junkyards, and a battery-operated tricycle designed for the physically challenged. Faculty-led research includes the ***Development of Fabrication Feasible PERC Solar Cells*** aimed at achieving over 23% energy efficiency. Other initiatives like ***E-battery Solution Van and Smart Grid for Sustainable Societies*** focus on enhancing energy access, efficiency, and renewable solutions for a sustainable future.

Educational Outreach & Curriculum Development

Chitkara University integrate renewable energy and sustainable engineering into its curriculum with courses like applied mechanics, introduction to building energy efficiency, fluid mechanics and power plant engineering, equipping students to address global energy challenges. Community outreach emphasizes energy conservation, efficiency and the benefits of clean energy through hands-on projects, solar installations, and industry partnerships. Energy awareness workshops further empower students and local communities to support a sustainable future with affordable, clean energy solutions.

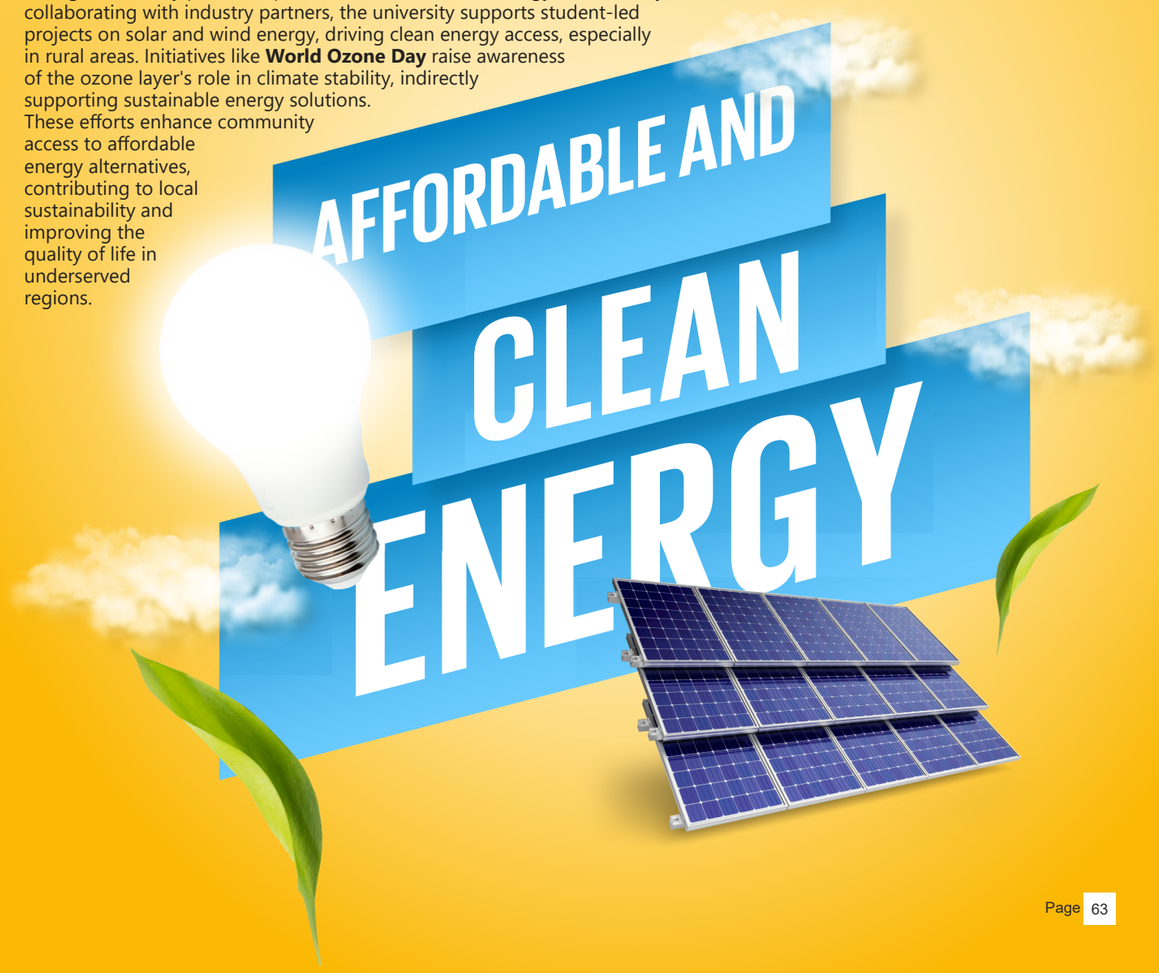
Publications
559

Patents
13

Student Activities
36

Community Partnership & Social Impact

Chitkara University promotes **SDG 7: Affordable and Clean Energy** through strong community partnerships focused on renewable energy solutions. By collaborating with industry partners, the university supports student-led projects on solar and wind energy, driving clean energy access, especially in rural areas. Initiatives like **World Ozone Day** raise awareness of the ozone layer's role in climate stability, indirectly supporting sustainable energy solutions. These efforts enhance community access to affordable energy alternatives, contributing to local sustainability and improving the quality of life in underserved regions.



Sustainable Campus Operations

Chitkara University integrates sustainability into every aspect of campus life, with a strong focus on eco-friendly transportation and energy efficiency. The University promotes green commuting through initiatives such as free public transit for faculty, along with Electric Golf Carts and EV Mini Tempos that serve as clean, efficient campus transport options. Solar Lounge provides a relaxing outdoor space powered by solar panels, supplying energy for mobile charging stations and other amenities. In addition, the University actively works on energy wastage identification, plans to upgrade existing and new buildings for higher energy efficiency and follows a systematic carbon management process focused on reduction and emission control, reinforcing its commitment to a clean, energy-resilient campus.



Student & Faculty Engagement

Chitkara University supports clean energy through solar power projects on campus, monitored via cloud-based systems. Faculty and students engage in research on energy-efficient technologies and sustainable practices. The university's initiatives, including solar energy tracking and renewable energy research, align with global efforts to provide affordable, reliable, and clean energy, reducing reliance on non-renewable resources.

Outcome & Achievement

In support of SDG 7: Affordable and Clean Energy, Chitkara University has received multiple recognitions. The institution was acknowledged in the THE Impact Rankings for its clean energy efforts, ranking highly in both international and national categories. For its energy-saving initiatives, the university was awarded by PEDA in 2023 and recognized for its sustainable energy practices. Additionally, the university was ranked among the top institutions for its commitment to affordable and clean energy.

Highlights

Energy Efficient Measures

2024-25:
- LED lightning 50% savings.
- BLDC Celling and exhaust fan upto 72% savings.
- VRF air-conditioning 28% saving.
- Adoption of sensor based automation systems.

EV Infrastructure

2024-25:
6 EV charging stations installed and plans initiated for 10 EV charging stations by 2030,encouraging clean transportation.

Energy Derived from Solar Power
75%

PUBLICATIONS

Article

1 Doping effects on boron carbide quantum dots for solar cells application: DFT study
Mahariq, I., Sharma, R.K., Kumar, A., ...Shallan, M.A., Almehizia, A.A.
Journal of Physics and Chemistry of Solids, 2025

2 Nickel substituted cobalt nanoferrites for advanced photocatalytic and electrocatalytic green hydrogen generation
Prakash, J., Jasrotia, R., Suman, u., ...Lakshmaiya, N., Raja, V.
Journal of Molecular Structure, 2025

3 Concentration of alumina nanofluid on stability and thermal behaviour of the hybrid solar thermal system
Venkatesh, R.P., Mohanavel, V., SOUDAGAR, M.E.M., ...Alharbi, S.A., Al-Obaid, S.M.
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Solid State Communications, 2025

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10 Reduction of carbon dioxide to methane and ethanol on the surface of graphyne-like boron nitride (Bnyen) monolayer: A DFT study
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10 Integration of SCAPS-1D and density functional theory for the performance evaluation of RbGeI3-based perovskite solar cell
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Journal of Physics and Chemistry of Solids, 2025

11 Current matching and filtered spectrum analysis of wide-bandgap/narrow-bandgap perovskite/CIGS tandem solar cells: A numerical study of 34.52 % efficiency potential
Singh, Y.K., Dwivedi, D.K., Lohia, P., ...Alsaif, F.K., Hossain, M.K.
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12 Revolutionizing Agriculture: Sustainable Solutions for High-Yield Farming Using Vertical Hydroponics
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13 Synthesis of Ni-zeolitic imidazolate framework embedded with graphitic carbon as multifunctional composite catalyst for electrochemical water splitting and photocatalytic clofibric acid degradation performance
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Applied Thermal Engineering, 2024

16 Simulation study of cadmium-free CIGS solar cell for efficiency enhancement by minimizing recombination losses through back surface field mechanismdy
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Yadav, A., Samykano, M.A., Kumar Pandey, A.K., Rajamony, R.K., Tyagi, V.V..
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30 Cost-benefit analysis of implementing a solar powered water pumping system – A case study
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Rekioua, D., Mokrani, Z., Kakouche, K., ...Dost Mohammadi, S.A., Ghoneim, S.S.M.
Scientific Reports, 2024

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Guermoui, M., Fezzani, A., Mohamed, Z., ...Ali, E., Ghoneim, S.S.M.
Scientific Reports, 2024

41 New coordinated drive mode switching strategy for distributed drive electric vehicles with energy storage system
Oubelaid, A., Kakouche, K., Belkhier, Y., ...Rekioua, D., Tuka, M.B.
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42 Investigation of surface hardness, thermostability, tribo-corrosion, and microstructural morphological properties of microwave-synthesized high entropy alloy FeCoNiMnCu coating claddings on steel
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43 Enhancing solar still performance with Plexiglas and jute cloth additions: experimental study
Dumka, P., Mishra, D.R., Singh, B., ...Lakshmaiya, N., Shah, M.A.
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1 Photonics in offshore wind energy system development: A systematic review
Mohanty, A.C., Ramasamy, A.K., Mohanty, S., ...Satapathy, A.S., Sahoo, S.K.
Results in Engineering, 2024

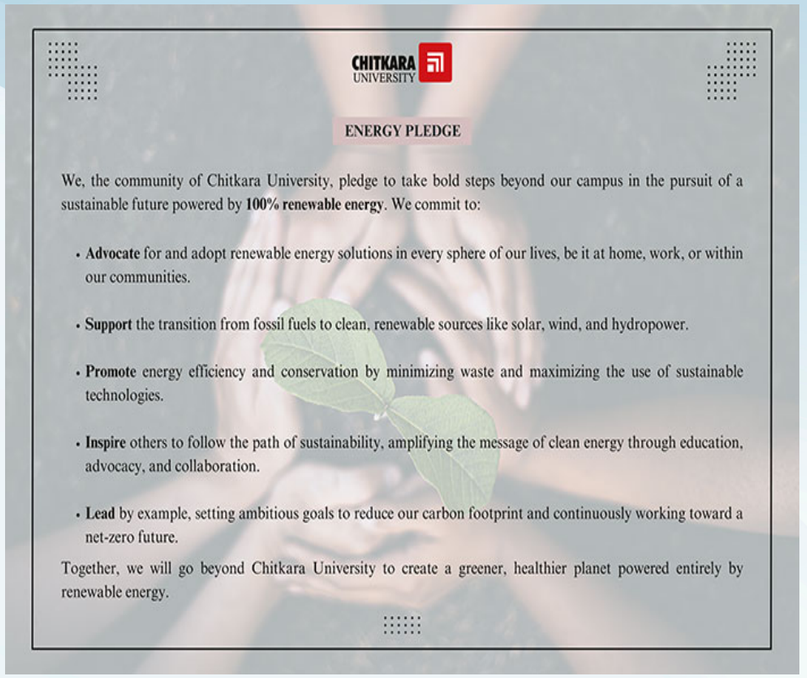
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4 Optical power monitoring systems for offshore wind farms: A literature review
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Sustainable Energy Technologies and Assessments, 2024

5 A comprehensive review of bismuth, lanthanum and strontium based double perovskites – Unravelling structural, magnetic, and dielectric properties
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1 Correction to: Enhancing solar still performance with Plexiglas and jute cloth additions: experimental study (Sustainable Environment Research, (2024), 34, 1, (3), 10.1186/s42834-024-00208-y)
Dumka, P., Mishra, D.R., Singh, B., ...Lakshmaiya, N., Shah, M.A.
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CHITKARA UNIVERSITY

ENERGY PLEDGE

We, the community of Chitkara University, pledge to take bold steps beyond our campus in the pursuit of a sustainable future powered by **100% renewable energy**. We commit to:

- **Advocate** for and adopt renewable energy solutions in every sphere of our lives, be it at home, work, or within our communities.
- **Support** the transition from fossil fuels to clean, renewable sources like solar, wind, and hydropower.
- **Promote** energy efficiency and conservation by minimizing waste and maximizing the use of sustainable technologies.
- **Inspire** others to follow the path of sustainability, amplifying the message of clean energy through education, advocacy, and collaboration.
- **Lead** by example, setting ambitious goals to reduce our carbon footprint and continuously working toward a net-zero future.

Together, we will go beyond Chitkara University to create a greener, healthier planet powered entirely by renewable energy.


Certificate
This certificate is awarded to
Chitkara University, Punjab
as The 532nd World's Most Sustainable University
in 2024 UI GreenMetric World University Rankings
12 December, 2024
Prof. Dr. Ir. Riri Fitri Sari, M.Si., M.Sc.
Chairperson of UI GreenMetric


CHITKARA UNIVERSITY
12TH
IN INDIA &
101-200 BAND GLOBALLY
SDG7 AFFORDABLE AND CLEAN ENERGY
THE IMPACT RANKINGS 2024


Government of Punjab
Department of New & Renewable Energy Sources
Award for Outstanding Contribution
Presented to
Chitkara University, Rajpura
(Sector: Educational Institutions-Government & Private Buildings)
participated in the State Level Energy Conservation Award Competition
organized by Punjab Energy Development Agency, Chandigarh
(State Designated Agency-Punjab) and secured the
Second Position
under the category of
Commercial Buildings
for their efforts made in the field of
Energy Conservation during the last two years 2021-22 & 2022-23.
December 2023
Chandigarh
Dr. Lakhbir Singh, IAS
Chief Executive Officer
Punjab Energy Development Agency



























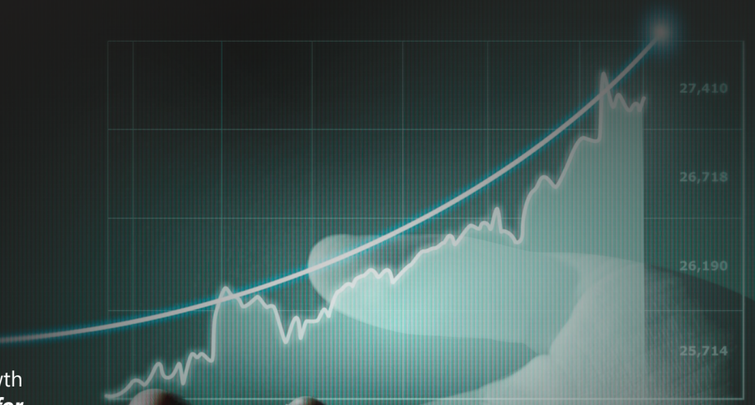




8 DECENT WORK AND ECONOMIC GROWTH

Publications
249

Collaboration
80



Industry Visits:
66

Patents
51



Research and Development

Chitkara University's research by fostering inclusive economic growth and promoting decent work. Projects such as ***Gen-Next Support for Innovative Start-ups (GENESIS) Scheme, TIDE 2.0*** Scheme and the ***Technology Enabling Center (TEC)*** focus on nurturing innovation and entrepreneurship. Through initiatives like ***Rural Social Entrepreneurship*** and ***Science Technology and Innovation Hub,*** the university empowers communities, enhances skill development, and drives sustainable regional growth, creating employment opportunities for marginalized populations.

Educational Outreach & Curriculum Development

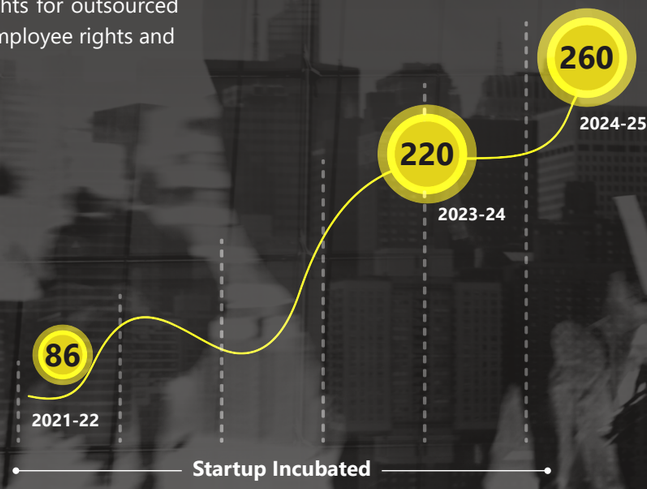
Chitkara University prepares students for today's job market through programs in health sciences, business, technology and vocational training, including clinical skills and emergency interventions, economics, leadership and project management, UX design for rural India, marketing management, business negotiation skills and architectural design. Community financial literacy and digital skills programs support sustainable growth, while industry collaborations offer internships and practical training to enhance employability.

Sustainable Campus Operations

Chitkara University upholds ethical employment practices, ensuring a living wage, equal pay and non-discriminatory policies for all. The University recognizes equal labour rights for all employees, including women and international staff and is committed to measuring and eliminating gender pay gaps through regular pay scale equity tracking. It also prohibits forced labour and modern slavery, guarantees equivalent rights for outsourced workers and maintains an appeal process to protect employee rights and promote fairness and inclusivity campus-wide.

Student & Faculty Engagement

The university empowers students through entrepreneurship cells and industry collaborations, offering hands-on experience in sustainable business practices and startup opportunities that promote innovation and job creation. Key activities include labor law training, digital marketing workshops, leadership camps, and sessions on intellectual property and FinTech. These initiatives enhance employability, promote ethical business practices and workplace safety, and foster sustainable economic growth aligned with global labor market demands.



Community Partnership & Social Impact

The DHBW-Chitkara University collaboration strengthens community partnerships by engaging students in cross-cultural projects that address real-world challenges. Through ties with organizations like Infosys, KPMG, and WNS Global Services, it drives social impact by promoting sustainable economic growth, decent work, and job creation.

Outcome & Achievement

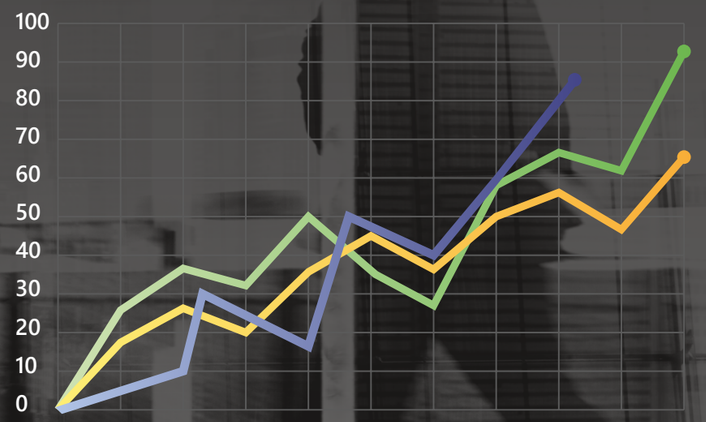
Chitkara University demonstrates a strong commitment to SDG 8: Decent Work and Economic Growth. It has been recognized in the QS World University Rankings for its employment outcomes, highlighting its emphasis on enhancing graduate employability. Chitkara Business School has also been acknowledged in national rankings by IIRF for its focus on employability and industry-aligned programs. Additionally, the university's achievements in the Times Higher Education (THE) Impact Rankings 2025 and GHRDC rankings reflect its dedication to fostering economic growth, job creation, and skill development through quality education and industry collaboration.



Student Placed 92%

Entrepreneurship Program 86%

Industry Tie-ups 67%



PUBLICATIONS



Conference Paper

1. A study of the feasibility of Hybrid District Heating System in the cold climates of Northern India
   Kumar, R
   AIP Conference Proceedings, 2024

2. IoT-enabled deep learning framework for accurate animal head tracking
   Chabra, G., Dua, B., Kaushik, S., ...Sethi, M., Kansal, I.
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3. Recycling of Solar Panels: Sustainable Disposal of Photovoltaic Materials
   Gera, R., Singh, H., Ikram, M., ...Prasad Raju, V.S., Kampani, S.
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4. Green Synthesis of Nano catalysts for Sustainable Petrochemical Refining
   Singla, T.S., Bisht, D., Taneja, M., ...Hemalatha, K., Talukdar, S.
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   Sanduru, B.T., Dhyani, M., Thakur, R., ...Bhardwaj, N., Talukdar, S.
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Article

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8 The paradox of attraction: unveiling the dynamics of tourist motivation and impact perception at a dark heritage site through mixed-method approach
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9 Espoused model of women entrepreneurship: antecedents to women entrepreneurial intention and moderating role of entrepreneurial self-efficacy
Sharma, N., Sinha, E., Shalender, K.
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10 Accessing vicarious nostalgia and memorable tourism experiences in the context of heritage tourism with the moderating influence of social return
Bhogal, S., Mittal, A., Tandon, U.
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11 Enhancing Crop Production: Unveiling the Role of Nanofertilizers in Sustainable Agriculture and Precision Nutrient Management
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15 Optimization of desorption parameters using response surface methodology for enhanced recovery of arsenic from spent reclaimable activated carbon: Eco-friendly and sorbent sustainability approach
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17 IoT-enabled deep learning framework for accurate animal head tracking
Chabra, G., Dua, B., Kaushik, S., ...Sethi, M., Kansal, I.
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18 Recycling of Solar Panels: Sustainable Disposal of Photovoltaic Materials
Gera, R., Singh, H., Ikram, M., ...Prasad Raju, V.S., Kampani, S.
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19 Green Synthesis of Nano catalysts for Sustainable Petrochemical Refining
Singla, T.S., Bisht, D., Taneja, M., ...Hemalatha, K., Talukdar, S.
E3S Web of Conferences, 2024

20 Life Cycle Analysis of Energy Storage Technologies: A Comparative Study
Sanduru, B.T., Dhyani, M., Thakur, R., ...Bhardwaj, N., Talukdar, S.
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1 Entomopathogenic microorganisms as biocontrol agents for agricultural sustainability
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2 Pesticides removal and their detection in real samples using green synthesized nanocomposites of biogenic quantum dots and metal oxides: A comprehensive review on recent updates
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4 Exploring bio-nanomaterials as antibiotic allies to combat antimicrobial resistance
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5 Biodiversity, mechanisms, and potential biotechnological applications of minerals solubilizing extremophilic microbes: A review
Devi, R., Kaur, T., Negi, R., ...Kour, D., Yadav, A.N.
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6 Valorization of Agriculture Residues into Value-Added Products: A Comprehensive Review of Recent Studies
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Chemical Record, 2024

7 Microbial Consortia: Promising Tool as Plant Bioinoculants for Agricultural Sustainability
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8 A critical review on MOFs and COFs-based heterogeneous catalysts in biodiesel generation: Synthesis methods, structural features, mechanisms, kinetic, economic/environmental evaluation, and their performance
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9 Sensors, society, and sustainability
Chaudhary, V., Gaur, P., Rustagi, S.
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10 Nano-biogenic heavy metals adsorptive remediation for enhanced soil health and sustainable agricultural production
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12 Biodiversity prospecting for phytoremediation programs intended for utilizing polluted lands and obtaining bioeconomy
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International Journal of Renewable Energy Development, 2024

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1 Digital Analytics Applications for Sustainable Training & Education
Sood, K., Kalia, P., Grima, S., Chaudhary, A.
Digital Analytics Applications for Sustainable Training and Education, 2024

2 Role of Green Investment on Economic Aspects of Sustainable Development
Kaur, R., Tanwar, A..
Contemporary Studies in Economic and Financial Analysis, 2024

3 Pixels To Planet: A Global Perspective On Sustainability Across Different Industries
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4 Role o Green Investment on Economic Aspects of Sustainable Development
Kaur, R., Tanwar, A..
Contemporary Studies in Economic and Financial Analysis, 2024

5 Smart cities: Blockchain, AI, and advanced computing
Sharma, B., Gupta, M., Jeon, G.
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6 Sustainable ai and cybersecurity: Addressing ethical challenges in the digital age
Verma, J., Snehi, M., Kansal, I., ...Sharma, P.S., Kumar, R.
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7 Rise of artificial intelligence in marketing: Strategies for ethical implementation
Mishra, N.
Ethical AI and Data Management Strategies in Marketing, 2024



8 The impact of FinTech on the performance of Indian Banks: Investigating the presence of clusters across Indian Bank characteristics
Varma, P., Nijjer, S., Sood, K., Grima, S.
Finance Analytics in Business: Perspectives on Enhancing Efficiency and Accuracy, 2024

9 The impact of Fintech on entrepreneurship business: A global perspective
Gupta, M., Jindal, P.

Finance Analytics in Business: Perspectives on Enhancing Efficiency and Accuracy, 2024

10 An entrepreneurial approach to triple bottom line: A strategy towards sustainability
Rajput, A., Garg, A., Verma, T., Aggarwal, R.

Digital Entrepreneurship: Future Directions, 2024

11 Achieving Sustainable Development Goals By Sustainable Marketing Practices: An Integrated Approach To Environmental, Social, And Economic Sustainability
Bala, R

Contemporary Studies in Economic and Financial Analysis, 2024

12 Entrepreneurship and Frugal Innovation For Realising Sdgs In Global Context
Prakash, N., Sharma, S., Jindal, P.

Contemporary Studies in Economic and Financial Analysis, 2024

13 Enhancing Sustainability Through A Quality-centric Approach
Kaur, B., Rajput, A., Garg, A.

Contemporary Studies in Economic and Financial Analysis, 2024

14 A Systematic Study Of Causal Interaction Between Natural Gas, India's GDP and Sustainable Growth
Tanwar, A.

Contemporary Studies in Economic and Financial Analysis, 2024

15 An analysis on frauds affecting the financial security of the indian banking sector: A systematic literature review
Saluja, S., J Nair, A.J.

Ethical Marketing Through Data Governance Standards and Effective Technology, 2024


CERTIFICATE
OF ACHIEVEMENT

Chitkara College of Planning and Architecture, Rajpura, Punjab

2024 AWARD

For Participation in GHRDC Architecture Colleges Survey 2024
Awarded
4th Rank in the Category of Super Excellence
1st Rank in the State of Punjab
2nd Rank in the Northern Region

Global Human Resource Development Centre Pvt. Ltd.
New Delhi

Presented by
Mekhla Sinha
Executive Director





9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Educational Outreach & Curriculum Development

Chitkara University integrates the principles of SDG 9—focusing on industry, innovation, and infrastructure—into its academic and outreach initiatives. The curriculum emphasizes future-driven disciplines such as engineering, data science, AI, machine learning, and innovation management, fostering a culture of industrial advancement. Project-based learning, supported by innovation labs, incubation centres, and industry collaborations, enables students to gain practical experience. Additionally, community engagement through digital literacy and infrastructure planning workshops enhances regional development and supports inclusive technological progress.

Research and Development

Chitkara University is driving impactful changes through research and innovation focused on strengthening infrastructure, advancing technology, and fostering sustainable industrial growth. Breakthrough projects like **Scalable and Secure Airgap based Wireless enabled solution for DRDS Assessment Process, MOKSH 2.0—A Tractor Retrofit** that converts crop residue into high-value powder—and intelligent security systems for defense communication showcase the university's commitment to real-world solutions. Technical workshops on road design and power system protection further empower students and professionals to build smarter, safer systems. With hundreds of patents, publications, and global collaborations, the university continues to be a catalyst for transformative innovation and resilient infrastructure development.

Community Partnership & Social Impact

Global academic collaborations, like the **DHBW-Chitkara Virtual Project and MBA-Healthcare Module**, support **SDG 9: Industry, Innovation, and Infrastructure.** By focusing on sustainable urban development and healthcare innovations, these partnerships promote technological advancements, resilient infrastructure, and sustainable industrialization, driving progress in underserved communities and improving global healthcare access.

Sustainable Campus Operations

Chitkara University promotes sustainable infrastructure, water conservation, green transportation and waste management in alignment with global sustainability goals. Award-winning water-saving measures and solar-powered facilities contribute to reducing the carbon footprint while advancing environmental stewardship. Research labs focus on green technology and smart systems enhance resource efficiency across campus. Through workshops and strategic partnerships, the university extends its environmental impact beyond campus, fostering innovation, resilience and sustainable development.



Outcome & Achievement

Chitkara University has earned recognition for its strong focus on innovation and sustainable development. With over 1,540 patents awarded and the highest number of design patent filings recognized by IP India, it stands as a leading private university in innovation. The university has received the CII Industrial Innovation Award, BusinessWorld's Excellence in Engineering award, and is ranked among the top innovative universities globally by WURI. It is also featured in THE Impact Rankings, ranked 13th by Career360 for pharma research, and recognized by Times Engineering and NIRF for research and innovation excellence.



Student & Faculty Engagement

Chitkara University integrates innovation-focused workshops and hands-on activities into its curriculum to promote sustainable development. Students gain practical experience in areas such as sustainable infrastructure, digital technologies, and healthcare advancements through initiatives like the Open Roads Designer workshop, paper recycling technology training, and AI in healthcare sessions. Competitions, skill development programs, and field visits further emphasize entrepreneurship, eco-friendly construction, and digital innovation, aligning education with industry needs and fostering sustainable growth across various sectors.

- The **2021-22** values are set as the **base (0%).**
- Bars show how much each indicator has **grown in 2023-24 and 2024-25.**

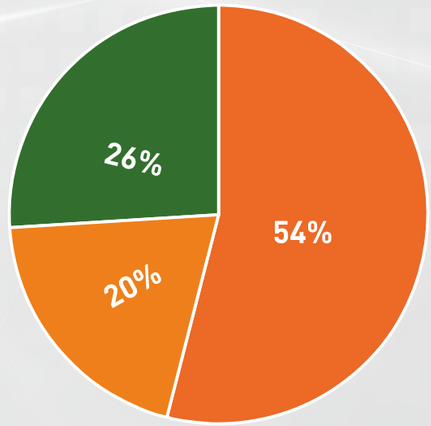
Publications
649

Start-Ups
260

Patents
508

Collaborations
72

Research Income From Industry



PUBLICATIONS

Conference Paper



1 Cyber Security Challenges in Industrial Settings with the Internet of Things
Salagrama,S., Garg,A., Logeshwaran,J., Kushwaha,S.S., Kumar,R.
Communications in Computer and Information Science, 2025

2 Machine Learning and the Internet of Things for Industrial Process Improvement
Salagrama,S., Garg,A., Logeshwaran,J., Kushwaha,S.S., Kumar,R.
Communications in Computer and Information Science, 2025

Article

1 IoT Sensor Data Retrieval and Analysis in Cloud Environments for Enhanced Power Management
Arulkumar,V., Kavin,F., Arulkumar,D., Nagu,B.
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3 The Integration and Implementation of the Healthcare Internet of Things and Its Comprehensive Analysis
Adilakshmamma,T., Meharunissa,S.P., Sreeram,A., ...Maryanka,, Gupta,S.
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3 Impact of various fibers on mode I, III and I/III fracture toughness in slag, fly Ash, and silica fume-based geopolymer concrete using edge-notched disc bend specimen
Karthik,S., Saravana,R.M.K., Murali,G., Abid,S.R., Dixit,S.
Theoretical and Applied Fracture Mechanics, 2024

4 Harnessing waste for sustainable construction: A novel synthesizing activators from waste for one-part geopolymer concrete and evaluating its fracture toughness
Murali,G., Kallamalayil Nassar,A., Kathirvel,P., ... Karthikeyan,K., Abid,S.R.
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5 Frequency selective metasurface based radio frequency glucose sensor with a periodic array of meta cells
Kandwal,A., Dutt,S., Liu,L.W., ... Almuhlafi,A.M., Vettikalladi,H.
Scientific Reports, 2024

6 Production of bioplastic films from wild cocoyam (Caladium bicolor) starch
Enwere,C.F., Okafor,I.S., Adeleke,A.A., ... Paramasivam,P., Ayuba,S.
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7 Lead-free Cs2TiBr6perovskite solar cells achieving high power conversion efficiency through device simulation
Gupta,S., Kaur,J., Basu,R., ... Pandey,R., Madan,J.
Micro and Nanostructures, 2024

8 Silicon porous disc featured parabolic trough collector functioned with paraffin: Thermal performance study
Mohanavel,V., Logesh,K., Sharma,P., ... Al-Obaid,S.M., Kannan Ramachandaramurthy,V.
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10 Bio-synthesized ZnO in cesium based perovskite solar cells: A pathway to sustainable high efficiency
Bhattarai,S., Mohammed,M.K., Hossain,I., ... Pandey,R., Madan,J.
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Barsola,B., Saklani,S., Pathania,D., ... Kaushik,A.K., Chaudhary,V.
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Chawla,S.K., Sharma,N., Elngar,A.A., Chatterjee,P.K., Srinivasu,P.N.
Industrial Internet of Things Security: Protecting AI-Enabled Engineering Systems in Cloud and Edge Environments, 2024

3. Sustainable Organizations, High Potential Employees, And Blended Learning Effectiveness In The Manufacturing Industry
Saini,R., Dawra,S.
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4. Role of green investment on economic aspects of sustainable development
Kaur,R., Tanwar,A.
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4. Pixels to planet: a global perspective on sustainability across different industries
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Book Chapter

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CHITKARA UNIVERSITY

INDIA TODAY GROUP

Ranked

1st

with 1540 Patents Filed

Under Category (Recognizing Top Private Universities for their Patents Filed in the Past Three Years)

CHITKARA UNIVERSITY

INDIA TODAY GROUP

Ranked

5th

with 105 Patents

Under Category (Recognizing Top Private Universities for their Patents Granted in the Past 3 Years)

CHITKARA UNIVERSITY

6TH

IN INDIA &
201-300 BAND GLOBALLY
IN SDG 09 (INDUSTRY, INNOVATION AND INFRASTRUCTURE)

THE IMPACT RANKINGS 2024

CHITKARA UNIVERSITY

RANKED

13th

In India's Best Pharma University
in providing quality learning and
cutting-edge research opportunities

CAREERS360

CHITKARA UNIVERSITY

THE TIMES OF INDIA

Chitkara University Institute of Engineering and Technology has been ranked

13th

in Top 30 Institutes - Research Capability by

TIMES ENGINEERING

CII

Confederation of Indian Industry

CII INDUSTRIAL INNOVATION AWARDS 2024

CII Industrial Innovation Awards 2024

This is to certify that

Chitkara University, Punjab

is recognized as

Top 5 Innovative Company

December 2024

Mr. Vipin Sondhi, Chairman, CII Industrial Innovation Awards 2024

Mr. Alok Nanda, Co-Chairman, CII Industrial Innovation Awards 2024

Prof. Rishikesha T Krishnan, Co-Chairman, CII Industrial Innovation Awards 2024

Dr. Ashish Mohan, Executive Director, Technology, Innovation & IP, Confederation of Indian Industry

Chitkara University

Achieves Top Honors in NIRF 2024 Rankings

11-50

in Innovation Category

nirf NATIONAL INSTITUTIONAL RANKING FRAMEWORK

WURI The WORLD UNIVERSITY RANKINGS for INNOVATION

2024 Rankings
B1. Leadership
Top 100

Chitkara University, Punjab

has been ranked

27th place

among the World University Rankings for Innovation

June 7, 2024

Organized by IPS Switzerland

Issued by WURI

Sponsored by The Hanseatic League of Universities, unitar

WURI The WORLD UNIVERSITY RANKINGS for INNOVATION

2024 Rankings
A6. Social Responsibility
Top 100

Chitkara University, Punjab

has been ranked

18th place

among the World University Rankings for Innovation

June 7, 2024

Organized by IPS Switzerland

Issued by WURI

Sponsored by The Hanseatic League of Universities, unitar

WURI The WORLD UNIVERSITY RANKINGS for INNOVATION

2024 Rankings
A2. Student Mobility and Openness
Top 100

Chitkara University, Punjab

has been ranked

22nd place

among the World University Rankings for Innovation

June 7, 2024

Organized by IPS Switzerland

Issued by WURI

Sponsored by The Hanseatic League of Universities, unitar

WURI The WORLD UNIVERSITY RANKINGS for INNOVATION

2024 Rankings
Global Top 300

Chitkara University, Punjab

has been ranked

113th place

among the World University Rankings for Innovation

June 7, 2024

Organized by IPS Switzerland

Issued by WURI

Sponsored by The Hanseatic League of Universities, unitar



Best Award 2025

INDIA'S BEST ENGINEERING INSTITUTES 2025

CAREERS360
A Career is a Life

After evaluating the quality of students, faculty, learning engagement, infrastructure, graduate outcomes, placements, diversity, and research output, **we are pleased to announce that**

Chitkara University Institute of Engineering and Technology, Jhansla

Has been rated AAAA+

making it one of the best engineering institutes in the country in 2025.

MAHESHWER PERI
EDITOR, CAREERS360

10 REDUCED INEQUALITIES

Educational Outreach & Curriculum Development

We work to reduce inequalities by offering inclusive educational outreach and curriculum initiatives that ensure equal learning opportunities for all. The university provides scholarships, mentorship, and resources to support students from diverse socio-economic backgrounds. Community outreach focuses on empowering marginalized groups through skill development, digital literacy, and vocational training. By fostering an inclusive atmosphere, Chitkara University bridges gaps, promoting access to quality education and advancing social equity.

Outcome & Achievement

Chitkara University's achievement in the **WURI Ranking** for Social Responsibility highlights its efforts in addressing inequality through inclusive educational programs and community engagement. Additionally, the university's recognition in the **QS World University Rankings** for Sustainability and **THE Asia Awards** for Best Research Projects showcases its commitment to reducing inequalities through social impact, research, and environmental sustainability.

Community Partnership & Social Impact

Global collaborations, like the MBA-Healthcare module and partnerships with NGOs, contribute to SDG 10 by addressing disparities in healthcare and education. These initiatives focus on improving access to quality services in underserved communities, promoting social inclusion, and empowering marginalized groups, fostering equity and reducing social gaps.

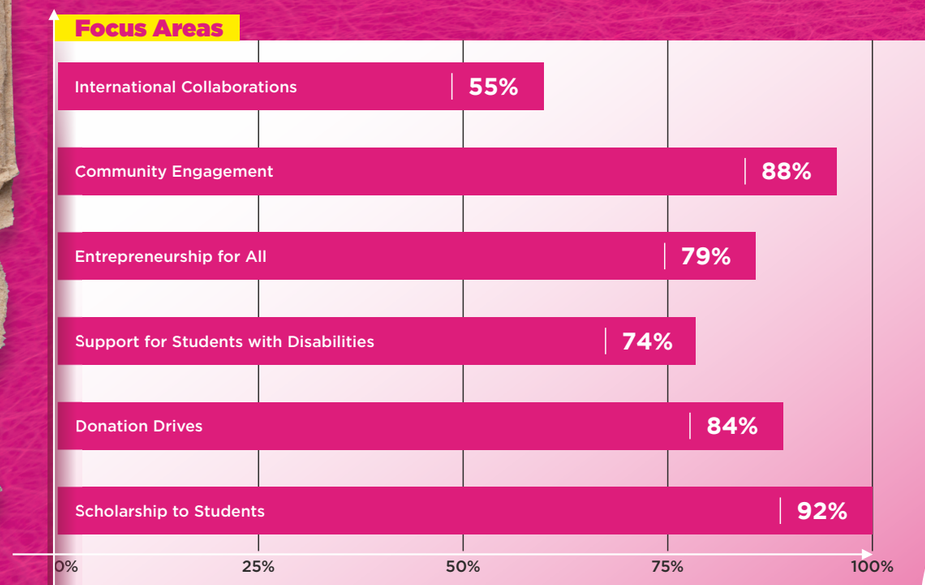
Research and Development

Chitkara University's research initiatives aim to reduce inequalities and promote inclusive growth. The CycleAssist project offers wheelchair users affordable mobility, enhancing access to healthcare and social opportunities. Additionally, ***Atmanirbhar Punjab and Atmanirbhar Himachal*** empower rural communities through financial inclusion, entrepreneurship, and digital solutions, creating economic opportunities for marginalized populations and contributing to SDG 10 by reducing inequalities and fostering sustainable development.

Publications 58

Courses 19

Student Activities 84



Sustainable Campus Operations

Chitkara University advances SDG 10 by fostering inclusivity and reducing inequalities across its campus operations. The University ensures equal access through inclusive infrastructure, accommodation facilities for individuals with disabilities. It actively tracks applications from marginalized groups and maintains strong anti-discrimination and anti-harassment policies. A dedicated Diversity and Equality Committee, supported by a University Diversity Officer, oversees initiatives promoting equity, inclusion and human rights. Additionally, mentoring and targeted support schemes ensure accessibility and empowerment for all—students, staff and international faculty alike—making Chitkara University a model of fairness and opportunity in higher education.

Student & Faculty Engagement

Chitkara University promotes social equity and inclusion through a range of student and faculty engagement initiatives. Mentoring, counseling and peer support programs ensure equal opportunities and a welcoming environment for all, including international faculty and staff. Programs such as skill development workshops, gender sensitization courses and financial literacy sessions help students overcome social and economic disparities. Faculty-led initiatives like the Global Externship and CSR programs further promote global inclusivity, equitable career opportunities and a culture of diversity and belonging across campus.





PUBLICATIONS

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1 Gendered spatial segregation in traditional residences: Havelis of Rajasthan, India
Bhandari,H., Singhal,A., Lisha,

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2 Forgery Fighters: The CNN-SVM Edge in Currency Security
Mehta,S., Kumar,A.M., Dogra,A., Jain,V.

2024 2nd World Conference on Communication and Computing, WCONF 2024, 2024

3 Cricket Umpire Intelligence: A CNN-SVM Framework for Action Detection
Suryavanshi,A., Mehta,S., Rana,S., Joshi,K.

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4 Combatting Digital Financial Fraud through Strategic Deep Learning Approaches
Sharma,R., Sharma,A.

2nd International Conference on Sustainable Computing and Smart Systems, ICSCSS 2024 - Proceedings, 2024

5 Analyzing the Effectiveness of Machine Learning Models for Next Day Cryptocurrency Price Prediction
Singh,G., Sahoo,A.K., Yadav,G., ... Sarangi,P.K., Gupta,J.

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6 Computational Insights into Tea Blister Blight: A Hybrid CNN-KNN Model Perspective
Banerjee,D., Sharma,N., Upadhyay,D., Singh,V.P., Yamsani,N.

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7 Prediction of Bitcoin Price Using XGBoost Algorithm Along with the Impact of Blockchain Technology
Shilpa,, Wadhwa,H., Sharma,N.K.

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8 Counseling and reintegration into the workforce after experiencing discrimination due to anxiety
Kapoor,T., Yadav,A., Agrawal,S., Homavazir,Z., Nilkant,D.

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9 Analysis of how microfinance affects socioeconomic development
Homavazir,M., Mishra,S., Purohit,A., Umakanth,S., Sharma,S.

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11 Malaria Disease Detection using Convolutional Neural Network Architecture
Kaur,G., Sharma,N., Malhotra,S., Devliyal,S., Singh,S.P.

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12 CNN and Random Forest Hybrid Model for Tea Leaf Diseases Multiclassification
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13 Covid 19 Pandemic Triggered Disruptions in World Supply Chain: Challenges and Roadmap Ahead of Pharmaceutical Industry
Arora,R., Nangia,R., Singel,R., ... Gupta,N., Mittal,A.

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14 Exploring the economic and social impact of Covid-19 on India
Bansal,R., Tandon,D., Misra,S.K., Khanna,M.S.

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15 Classification of Pneumonia Disease Through Deep Learning Procedures and Fine-tuning on ResNet50V2 CNN Model Utilizing Chest Xray Images
Singh Gill,K.S., Anand,V., Gupta,R.

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16 NeuroSpectra: An Innovative Multi-Class Alzheimer's Disease Classification with ConvNeXt Transfer Learning Model
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International Conference on Artificial Intelligence for Innovations in Healthcare Industries, ICAIIHI 2023, 2023

17 Predicting Life Expectancy using Machine Learning Approach through Linear Regression and Decision Tree Classification Techniques
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2023 3rd International Conference on Smart Generation Computing, Communication and Networking, SMART GENCON 2023

18 Analysis of High-Risk Pregnancies in India Using Artificial Intelligence
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19 Value Prediction of Real Estate Using Machine Learning
Danona,I., Rani,L.L., Srivastava,D.K.

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2023 2nd International Conference on Smart Technologies for Smart Nation, SmartTechCon 2023

22 Hemorrhage Classification in Head Computed Tomography Images using Convolution Neural Network Model
Anand,V., Shourie,P.

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4 An analysis on frauds affecting the financial security of the indian banking sector: A systematic literature review
Saluja,S., J Nair,A.J.

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Goswami,D., Verma,B.

Driving Decentralization and Disruption With Digital Technologies, 2024

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Digital Technologies, Ethics, and Decentralization in the Digital Era, 2024

8 Editorial: Global Sustainability: Trends, Challenges, and Case Studies
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Deep Learning Tools for Predicting Stock Market Movements, 2024

10 Blockchain-Based Communication Frameworks for Smart Vehicles
Mutha,R., Neeraj,, Taneja,A.

WSN and IoT: An Integrated Approach for Smart Applications, 2024

11 Introduction and Role of Society 5.0 in Human-Centric Development
Angurala,M., Khullar,V.

Artificial Intelligence and Society 5.0: Issues, Opportunities, and Challenges, 2024

12 AI Architectures and Technologies for Raising Society 5.0
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Artificial Intelligence and Society 5.0: Issues, Opportunities, and Challenges, 2024

13 Sustainability, green management, and performance of SMEs
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14 The impact of climate change and sustainability standards on the insurance market
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15 Target 8.8: Protect labor rights and promote a safe working environment
Singla,N., Sood,K., Grima,S., Yadav,U.S.

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16 ICT's critical role in financial inclusion: An opportunity for India
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1 A blockchain-based privacy-preserving and access-control framework for electronic health records management
Kumar,A., Singh,M., Sharma,R., ... Dhiman,G.J., Goel,S.

Multimedia Tools and Applications, 2024

2 Assessing the Role of the Fintech Era on the Banking Stability of an Emerging Economy: Interaction Analysis of the Indian Banking Industry
Aijaz Syed,A.A., Grima,S., Sood,K.

Folia Oeconomica Stetinensia, 2024

3 'The paradox of youths online political party brand engagement on Facebook: a congruity theory perspective
Jamwal,M., Saini,M., Banerjee,S.

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4 Exercise decision of employee stock options: does Herding Bias influence the employees' decision?
Arora,M.K., Kaur,S.

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5 The role of religious and financial factors in eudaimonic well-being among Indian adults
Padma Sri Lekha,P., Abdul Azeez,E.P., John,N.K.

Mental Health and Social Inclusion, 2024

6 Unveiling the impact of remittances on productive efficiencies: investigating productivity growth of prominent remittance-receiving developing nations
Verma,B., Bhardwaj,M., Arora,S., Oberoi,S.

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7 Mapping the evolution of financial inclusion: a retrospective overview using bibliometric analysis
Suryavanshi,U., Chaudhry,R., Arora,M., Mittal,A.

Global Knowledge, Memory and Communication, 2024

8 Credit risk and bank specific factors: an empirical study using panel GMM
Sharma,R., Mehta,K.

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9 Interrelationship between Share of Women in Parliament and Gender and Development: A Critical Analysis
Sarangi,S., Singh,R.K., Thakur,B.K.

Administrative Sciences, 2023

10 Simultaneously Developing Interventions for Low-/ Middle-Income and High-Income Settings: Considerations and Opportunities
Baker,Z.G., Nkimbeng,M.J., Cuevas,P.E.G., ... Gitlin,L.N., Shippee,T.P.

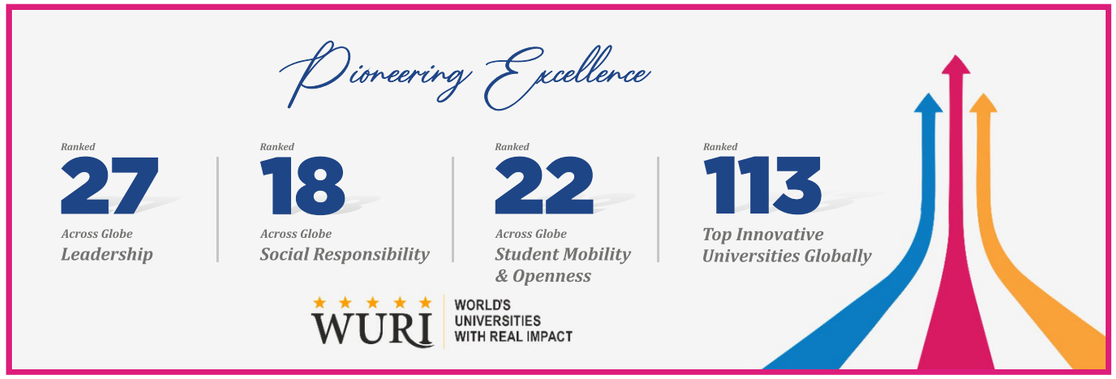
Gerontologist , 2023

11 Survey on financial portfolio management's role in investment decision-making strategies
Yadav,A., Madhavi,R., Bagaria,O., Ambulkar,A., Sharma,S.

Multidisciplinary Reviews, 2023

12 Perspectives on barriers to Social Inclusion (SI) for disabled individuals in the performing arts
Chheda,K., Baxi,P., Agarwal,T., Varma,P., Jha,A.M.

Multidisciplinary Reviews, 2023























11 SUSTAINABLE CITIES AND COMMUNITIES

Research and Development

Chitkara University research focuses on sustainable urban development and resilient infrastructure. Projects like the ***Sustainable Smart City Research Laboratory*** explore AI and smart solutions for urban challenges. The greywater treatment unit and eco-friendly home construction studies aim to develop sustainable building practices, contributing to the creation of environmentally friendly and resilient communities.

Educational Outreach & Curriculum Development

Chitkara University promotes sustainable and inclusive communities through educational outreach and curriculum development focused on urban innovation, environmental responsibility, and resilient infrastructure. By engaging students in community-based projects and interdisciplinary learning, the university prepares them to address real-world urban challenges and contribute to healthier, more sustainable living environments.

Community Partnership & Social Impact

Global academic partnerships, such as the collaboration between **DHBW and Chitkara University,** contribute significantly to SDG 11. These initiatives focus on urban development solutions, including access to clean water, sanitation, and affordable housing, while promoting social inclusion and creating supportive environments for marginalized groups. Through community-building and infrastructure development, these efforts foster resilience and improve the quality of life in underserved areas.

Sustainable Campus Operations

Chitkara University fosters a sustainable, resilient and inclusive campus ecosystem. The University's energy-efficient buildings are constructed to national green standards, complemented by pollution control, water recycling and waste management initiatives. Sustainable commuting is encouraged through electric vehicles, free or subsidized transport, cycling facilities and telecommuting options and the University as a body also prioritises pedestrian access across the campus to minimise carbon emissions. The campus offers affordable housing for students and staff and collaborates with local authorities to promote accessible community development. Open green spaces, libraries, museums and cultural centres are freely accessible to the public, enhancing community engagement. Moreover, the University actively records and preserves local cultural heritage, folklore and traditions, reinforcing its commitment to sustainability, inclusivity and cultural preservation.



Publications 230

Activities 87

Patents 80

Student & Faculty Engagement

Chitkara University actively contribute to sustainable urban development through smart city research, green space enhancement and interactive workshops such as Crumpled Imagination and fire safety drills. Field visits focused on sustainable design and urban planning enhance practical knowledge in eco-friendly infrastructure. The University also supports telecommuting and remote working for employees, promoting flexibility and reduced commuting impact, while providing library access to students beyond regular lectures to encourage continuous learning. Together, these initiatives help build resilient, inclusive and sustainable urban communities aligned with global sustainability goals.



Courses 81

Industry Visits 66

Zero Emission Vehicles 18

30+

State Level, National Level Competitions

Outcome & Achievement

Chitkara University has been recognized for its commitment to S**DG 11: Sustainable Cities and Communities.** The university has earned top positions in the **THE Impact Ranking** for SDG 11, demonstrating its dedication to sustainable urban development. Its sustainable actions earned it a Grade A++ and Platinum Band in the R World Institutional Green Ranking. Chitkara University also placed highly at the Punjab Energy Development Agency's Energy Conservation Awards and received recognition in the QS World University Rankings for Environmental Sustainability. Additionally, the university was awarded a Diamond Band in the Sustainable Institutions of India Green Rankings.

highlights

Sculpture Garden | The Dhaba And The Spectacles
The Haveli | D'Art Gallery | Green Spaces







PUBLICATIONS

Conference Paper



1 Exploring the Influence of Change of Land Use on Place Identity
Behl,S., Kaur,P.
Lecture Notes in Civil Engineering, 2025

2 Formulating housing proposal for the resettlement of dam-displaced population - Case of Parbati Irrigation Project, Rajgarh, Madhya Pradesh
Verma,N., Bansal,K.
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Singh,K.D., Singh,P.D., Verma,R., Maurya,S.K.
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4 Unlocking sustainable tourism: A holistic examination of mobile applications impact and evolution in travel experiences (2013-2023)
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E3S Web of Conferences, 2024

6 Towards a Carbon Neutral Future: Integrating Renewable Sources and Energy Storage in Sustainable Energy Solutions
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Bhong,M.G., Singh,R.K., Singh,P.K., ... Saraswat,M., Srivastava,A.K.
E3S Web of Conferences, 2024

8 Intelligent Control of Electric Vehicle Drives using Swarm Robotics
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9 Data analytics to find impact of religion on tourism in India
Chaudhary,D., Singh,J., Singh,J., Chahal,J.K., Molla,K.Z.
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Article

1 IoT Sensor Data Retrieval and Analysis in Cloud Environments for Enhanced Power Management
Arulkumar,V., Kavin,F., Arulkumar,D., Nagu,B.
Journal of Advanced Research in Applied Sciences and Engineering Technology, 2025

2 Effect of gasification input parameters and KOH catalyst action on functional properties of hydrogen production from municipal wastewater
SOUDAGAR,M.E.M., Singh,R.P., Bhooshanam,N.N., ... Alotaibi,M.A., Seikh,A.H.
International Journal of Hydrogen Energy, 2024

3 Enhanced forest fire susceptibility mapping by integrating feature selection genetic algorithm and bagging-based support vector machine with artificial neural networks
Mabdeh,A.N., Al-Fugara,A., Abualigah,L.M.Q., Saleem,K., Snášel,V.
Stochastic Environmental Research and Risk Assessment, 2024

4 Impact of various fibers on mode I, III and I/III fracture toughness in slag, fly Ash, and silica fume-based geopolymer concrete using edge-notched disc bend specimen
Karthik,S., Saravana,R.M.K., Murali,G., Abid,S.R., Dixit,S.
Theoretical and Applied Fracture Mechanics, 2024

5 Dynamic clustering based risk aware congestion control technique for vehicular network
Dhakad,B., Mishra,S., Ojha,S.S., ... Giri,J.P., Mozammil Hasnain,S.M.
Scientific Reports, 2024

6 Enhancing driver attention and road safety through EEG-informed deep reinforcement learning and soft computing
Yousaf,M.N., Farhan,M., Saeed,Y., ... Ullah,F., Srivastava,G.
Applied Soft Computing, 2024

7 Transforming satellite imagery into vector maps using modified GANs
Taparia,A., Bashir,A.K., Zhu,Y., Gdekallu,T.R., Nath,K.
Alexandria Engineering Journal, 2024

8 Enhanced forest fire evacuation planning using real-time sensor and GPS algorithm
Sharma,V., Nagpal,D., Monga,S., ... Altameem,A., Choi,J.
Scientific Reports, 2024

9 A survey on node localization technologies in UWSNs: Potential solutions, recent advancements, and future directions
Nain,M., Goyal,N., Dhurandher,S.K., ... Verma,A.K., Malik,A.
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12 Optimizing strength properties of M40 grade concrete using response surface methodology: investigating the influence of waste PET-Fs (coated and uncoated) and mineral admixtures
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13 The paradox of attraction: unveiling the dynamics of tourist motivation and impact perception at a dark heritage site through mixed-method approach
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26 Bioengineering solutions for expansive soil stabilization using waste materials: An experimental evaluation
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2 The Role of 6G Technologies in Advancing Smart City Applications: Opportunities and Challenges
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3 Hyperspectral imaging and its applications: A review
Bhargava,A., Sachdeva,A., Sharma,K.K., ... Uthansakul,P., Uthansakul,M.

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Community Partnership & Social Impact

Responsible Consumption and Production, the university collaborates with organizations to promote responsible consumption, recycling, and resource-efficient technologies. Initiatives like waste management workshops and circular economy projects engage local communities in reducing environmental impact and fostering responsible resource use.

Outcome & Achievement

Chitkara University is committed to **SDG 12: Responsible Consumption and Production.** It was awarded the **Green Band Diamond** Status in the **R World Institutional Ranking for Sustainable Institutions** (2024) and recognized with an **A++ Grade** and **Platinum Band** in the **Green Ranking** for 2023 for its sustainable education practices. Additionally, the university was acknowledged for its sustainability efforts in the **QS World University Rankings - Sustainability** (2024), underscoring its dedication to responsible consumption and production.

Research and Development

Chitkara University's research initiatives on responsible consumption and production support innovative startups like ***Parrave Ventures,*** which designs smart vending machines using recycled materials and energy-efficient components, with a commitment to plant a tree for every machine deployed. Additionally, research projects ***focused on sustainable materials for eco-friendly homes and the development of self-healing hydrogels*** contribute to sustainability and environmental conservation.

Student & Faculty Engagement

Students participate in campaigns like food waste recycling into manure, paper recycling, and creating bio-enzymes. Workshops and competitions focus on sustainable themes across fields like fashion and agriculture, encouraging eco-consciousness and resource efficiency. These activities aim to equip students with skills for a sustainable future, aligning with global environmental goals.

Educational Outreach & Curriculum Development

We promote sustainability and resource efficiency through courses like production and operations management, food production, conventional radiography, product design & lifecycle management, creative production etc. The university offers hands-on projects focused on recycling, resource optimization, and sustainable manufacturing. Community outreach programs encourage eco-friendly practices, waste reduction, water management and responsible consumption. By collaborating with industries and local organizations, Chitkara fosters a culture of sustainability, empowering students and communities to contribute to responsible production and consumption, driving a greener, more sustainable future.

Sustainable Campus Operations

The University advocate SDG 12 by promoting responsible consumption and production across campus operations. Waste reduction programs, including paper recycling and composting, minimize landfill contributions, while sustainable procurement policies prioritize eco-friendly materials. Energy-efficient systems and responsible water usage practices reduce resource consumption, and campus-wide awareness initiatives educate the community on sustainable habits. Start-up such as CUSTOSHOES and PARRAVE VENTURES PVT. LTD are dedicated to responsible consumption and production as well.

Publications
311

Collaboration
26

Patents
60

Courses
73

Student Activities
100



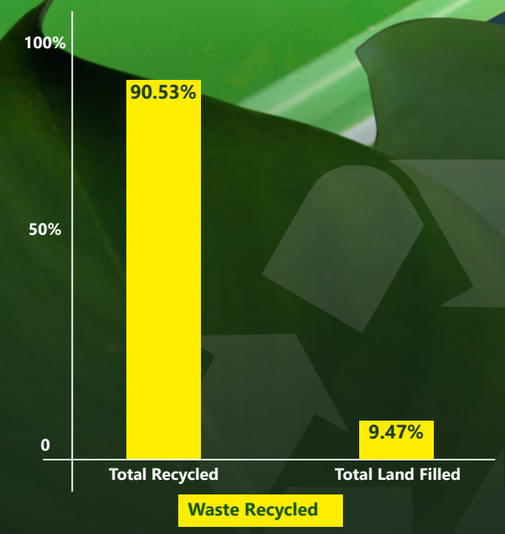
Highlights

Startup

Custoshoes

Old shoes into new and trendy shoes Parrave Ventures Pvt. Ltd

- Waste Management
- Food Waste Management
- Paper Recycling Plant
- Reusing stubble for Mushroom Production Unit



PUBLICATIONS

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1. IoT-enabled deep learning framework for accurate animal head tracking
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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

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29 Exploring the role of microbial fuel cells in sustainable wastewater treatment and energy generation
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30 Enhancement of selective monoaromatic hydrocarbon and syngas products from fast pyrolysis of cassava stalks over Co, Mo promoted Ni catalysts
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31 Examining teachers satisfaction with the new normal in a disruptive online hospitality, travel, and tourism education system
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2 MXene-based materials as adsorbents, photocatalysts, membranes and sensors for detection and removal of emerging and gaseous pollutants: A comprehensive review
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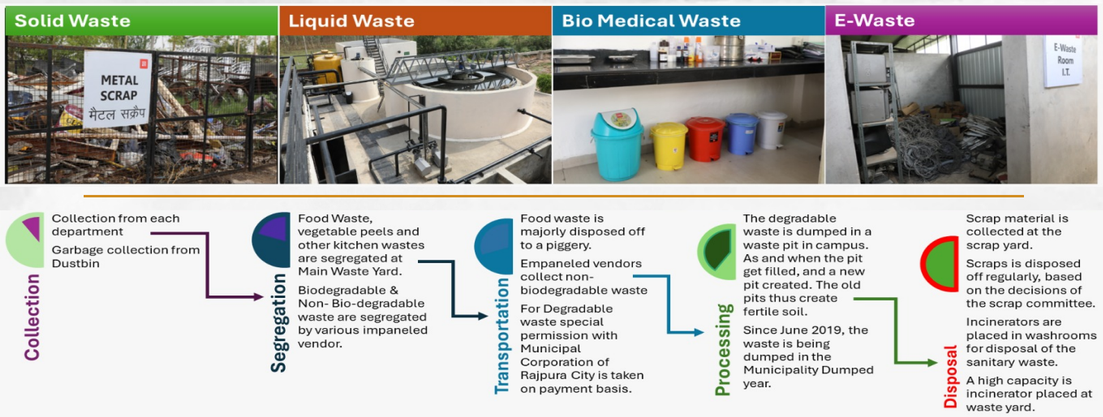
9 Ultraviolet protection of textiles with herbal dyes: A contemporary review
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10 Nose-on-Chip Nanobiosensors for Early Detection of Lung Cancer Breath Biomarkers
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13 Microbial Consortia: Promising Tool as Plant Bioinoculants for Agricultural Sustainability
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Waste Management - Process of Solid Waste Management

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1 Digital Analytics Applications for Sustainable Training and Education
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2 ROLE OF GREEN INVESTMENT ON ECONOMIC ASPECTS OF SUSTAINABLE DEVELOPMENT
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3 PIXELS TO PLANET: A GLOBAL PERSPECTIVE ON SUSTAINABILITY ACROSS DIFFERENT INDUSTRIES
Gupta,P., Bhavsar,S.S.
Contemporary Studies in Economic and Financial Analysis, 2024

4 Advanced computing for smart waste management and recycling in smart cities
Amesho,K.T., Shihomeka,S.P., Kadhila,T., ... Sharma,B., Edoun,E.I.
Smart Cities: Blockchain, AI, and Advanced Computing, 2024




Construction of Tanks and Bunds




Wastewater Recycling






Maintenance of Water Bodies, Distribution System & Double Plumbing

13 CLIMATE ACTION

Research and Development

Chitkara University's research initiatives by addressing climate action through innovative solutions. Projects such as the development of PERC solar cells with over 23% conversion efficiency and the Tractor mounted Integrated retrofit (MOKSH 2.0) for on-field conversion of straw to value-added powder, contribute to reducing carbon emissions. Additionally, research on sustainable smart cities and smart grids furthers climate resilience, while tree plantation drives, and carbon tracking systems reinforce the university's commitment to carbon neutrality by 2029.

Educational Outreach & Curriculum Development

With the focus on climate change, sustainability, and environmental conservation through its curriculum, Chitkara University offer various courses in environmental science, climate change adaptation, environmental engineering, history of built environment, climatology and building energy efficiency etc. equip students to address climate challenges. Collaborations with environmental organizations support research and innovative solutions for climate action, empowering students and local communities to effectively combat climate change.

Sustainable Campus Operations

Chitkara University is steadfast in its mission to achieve carbon neutrality by 2029 through strategic expansion of renewable energy, enhanced energy efficiency, sustainable waste management and increased green cover across the campus. The University recorded a remarkable reduction in total emissions—from 1383.60 tCO_2e in 2023–24 to 1252.43 tCO_2e in 2024–25—reflecting tangible progress toward its climate goals. Initiatives promoting electric vehicle use, water conservation and eco-friendly landscaping further minimize environmental impact. Through educational programs and community collaborations, Chitkara University fosters climate awareness and sustainable practices, reaffirming its dedication to environmental stewardship and responsible campus operations.

Community Partnership & Social Impact

Chitkara University works closely with local authorities, NGOs and community groups to advance climate resilience under its Climate Action Plan. The University supports cooperative planning for climate disasters, contributes to local early warning systems and promotes renewable energy and carbon reduction. Through awareness campaigns and collaboration, it empowers communities to adopt sustainable practices and strengthen regional climate preparedness.

Student & Faculty Engagement

Our university takes proactive steps toward climate action by integrating sustainability into campus life. Initiatives include tree plantation drives, renewable energy projects, and research on climate resilience. Faculty and students participate in awareness programs on reducing carbon footprints, encouraging environmental responsibility and innovation in addressing climate change through practical, science-based solutions.

Outcome & Achievement

Chitkara University demonstrates strong commitment to **SDG 13: Climate Action**. It was ranked in **Environmental Sustainability** in the **QS World University Rankings - Sustainability 2024,** highlighting its climate-conscious initiatives. The university also received the **Water Sustainability Award** from The **Energy and Resource Institute (TERI)** and the **Ministry of Jal Shakti,** recognizing its significant contributions to water conservation and sustainability efforts.

128 Publications | **59** Courses | **87** Activities | **08** Patents

Highlights

Chitkara University's Low Carbon Energy Tracking

(two advanced solar cloud-based monitoring systems —iSolarCloud by Sungrow and Aurora Vision by Fimer)

Tree Plantation Drives





1. Carbon Footprint Reduction

2024-25: Total emissions for the current year are 1252.426tCO_2e, a significant reduction from 1383.60tCO_2e in 2023-24

Scope 1 : 578.053tCO_2e
Scope 2 : 1.88tCO_2e
Scope 3 : 672.493tCO_2e

2023-24: Carbon footprint significantly decreased to 1383.60 tCO_2e, owing to expanded Scope 3 inclusion (e.g., commuting, purchased goods).

Scope 1 : 600.26 tCO_2e.
Scope 2 : Reduced to 1.86 tCO_2e due to near-complete renewable energy use.
Scope 3 : 781.48 tCO_2e (expanded categories).

2.Tree Plantation Drives

- **Increased green cover from 10,000 trees in 2023-24 to 12,500+ trees in 2024-25.**
- **Ongoing commitment to planting drought-tolerant species like Bougainvillea, Washingtonia Palm, and others.**

3.Carbon Neutral Commitment

- **2024-25:** Committed to become carbon neutral by 2029.

PUBLICATIONS

Conference Paper

1 **Assessing the Environmental Impact of Advanced Energy Storage Solutions: A Comparative Lifecycle Analysis**
Mishra,M., Dutt,A., Saini,N., ... Srikanth,T., Talukdar,S.
E3S Web of Conferences, 2024

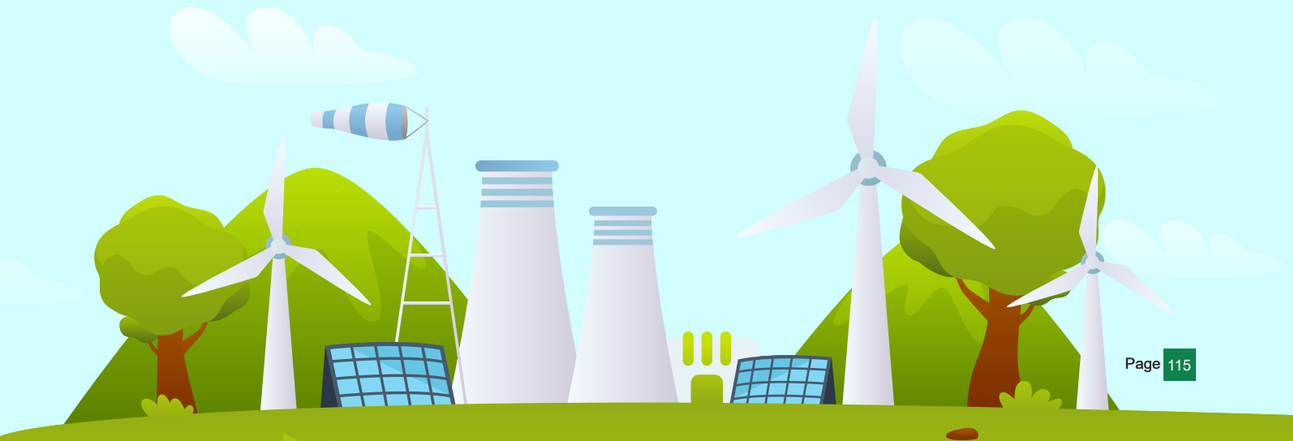
2 **Polymer Matrix Nanocomposites for Lightweight Sustainable Automotive Parts**
Sehgal, A., Kataria, A., Verma, R., Vivek Kumar, C., Naath Mongal, B.
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3 **Optimizing Solar-Wind Hybrid Microgrid Designs with Particle Swarm Techniques for Sustainable Energy Integration**
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4 **Recycling of Solar Panels: Sustainable Disposal of Photovoltaic Materials**
Gera, R., Singh, H., Ikram, M., ...Prasad Raju, V.S., Kampani, S.
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5 **Polymer Matrix Nanocomposites for Sustainable Packaging: A Green Approach**
Vafaeva, K.M., Chhetri, A., Sudan, P., ...B Sankara Babu, B., Naath Mongal, B.
E3S Web of Conferences, 2024

6 **Novel Nanocomposite Electrolytes for Sustainable Fuel Cells**
Chhabra,S., Joshi,A., Mishra,S., ... Kampani,S., Kumar,K.V.
E3S Web of Conferences, 2024



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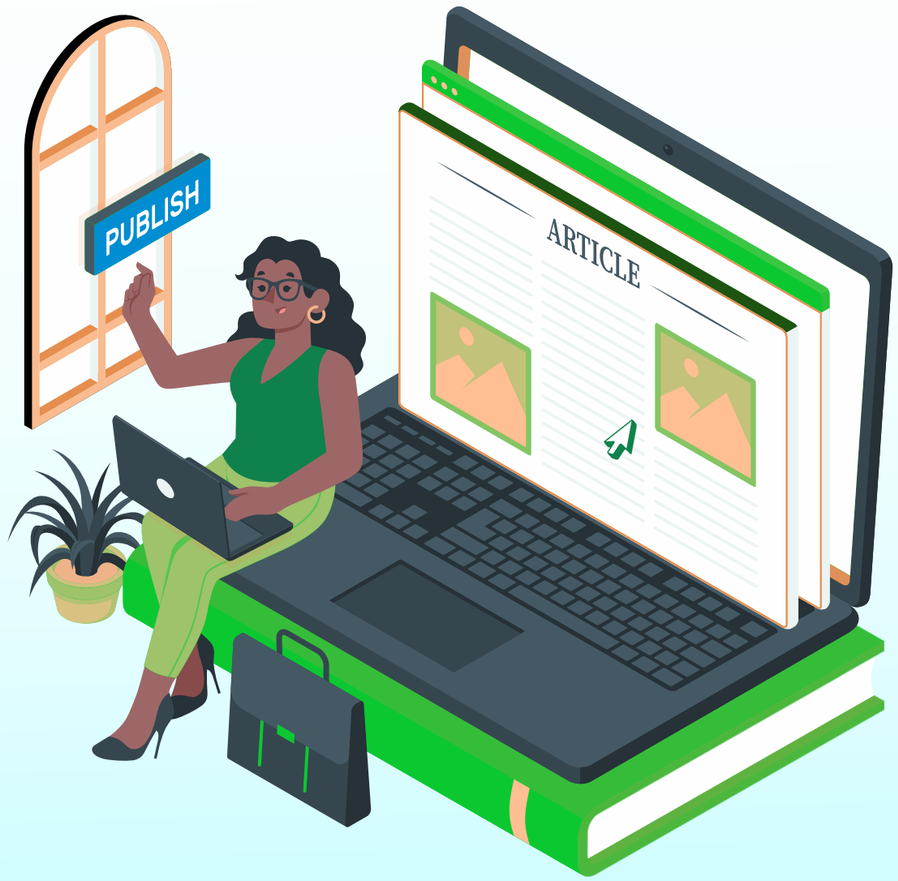
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14 LIFE BELOW WATER

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Research and Development

Chitkara University's research and development efforts emphasize marine conservation and pollution reduction. Projects like the exploration of energy-efficient underwater wireless sensor networks contribute to monitoring ocean health and reducing contamination. Initiatives like workshops and spirited debates on marine pollution raise awareness and engage students in discussions on technological innovations and sustainable practices, fostering solutions to protect aquatic ecosystems and preserve biodiversity for future generations.

Educational Outreach & Curriculum Development

Life Below Water program from Chitkara University emphasizes marine conservation and aquatic habitats. Students learn to protect marine life in ship management, conventions & maritime legislation, marine biology, and meteorology. Water pollution, marine biodiversity, and sustainable fishing are university research priorities. Ocean health, plastic pollution, and water conservation are promoted through community outreach. Chitkara engages students and local communities in marine conservation through fieldwork and partnerships with environmental organizations.

Community Partnership & Social Impact

Life Below Water, the university collaborates with environmental organizations on aquatic ecosystem and marine life conservation. Students participate in projects focused on water pollution, plastic waste reduction, and ocean conservation, raising awareness and contributing to global efforts to protect marine environments.

Sustainable Campus Operations

Chitkara University promotes SDG 14 by supporting clean water practices that protect aquatic ecosystems. Water conservation, waste management, and pollution control on campus help prevent contamination of nearby water bodies. Awareness programs educate the campus community on preserving marine resources, reflecting the university's commitment to protecting life below water.

Student & Faculty Engagement

Sessions on marine pollution management, sewage treatment, and sustainable fishing educate students on ocean conservation. Events like Earth Day poster-making foster awareness of marine protection, while research projects and campaigns aim to reduce pollution and preserve aquatic ecosystems.

Outcome & Achievement

Chitkara University has been recognized for its contributions to SDG 14: Life Below Water, with a strong focus on environmental sustainability and water conservation. In 2024, the university won the Water Sustainability Award for its innovations in water management technologies and recognition for Environmental Sustainability in the QS World University Rankings 2024, underscoring its dedication to preserving aquatic ecosystems and reducing pollution in water bodies.

Highlights

- Environmental Protection Practices Session
- Plastic Free Campus Campaign
- Lake Cleanup Awareness Drive

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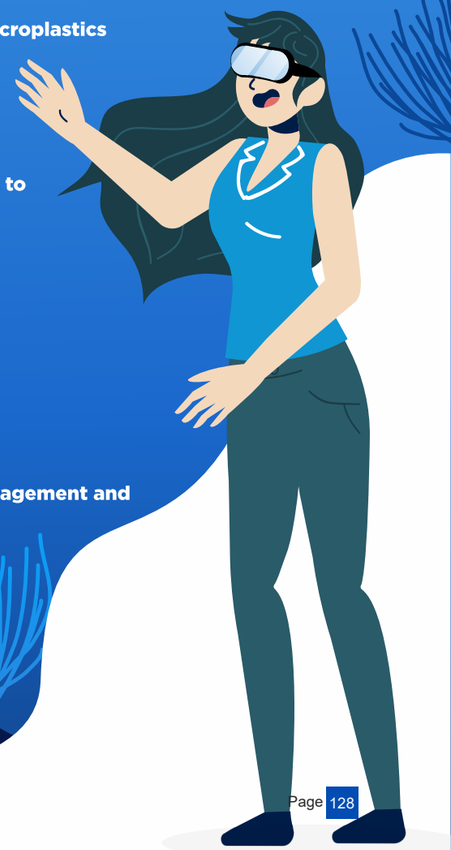
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Journal of Food Quality, 2023



15 LIFE ON LAND

Research and Development

Chitkara University's research and development focuses on preserving biodiversity and promoting sustainable land use. Initiatives like the ***Miyawaki Forest, featuring 1,200 native plants,*** and the ***Sustainable Mushroom Production Unit contribute*** to ecological balance. Projects such as vertical and terrace gardens maximize green space, while tree plantations and horticulture efforts enhance biodiversity, aligning with global goals to protect, restore, and promote sustainable ecosystems.

Educational Outreach & Curriculum Development

Land conservation, biodiversity, and ecological sustainability are Chitkara University priorities. Environmental science, disaster risk management, green building and rating systems, sustainable built environment development, environmental engineering, history of built environment, climatology, and building energy efficiency courses help students preserve terrestrial ecosystems. Community outreach campaigns bring deforestation, land degradation, and biodiversity to light. Environmental group partnerships give students and local communities hands-on experience protecting and restoring land ecosystems.

Student & Faculty Engagement

Chitkara University actively engages students and faculty in biodiversity conservation through hands-on activities such as tree plantation drives, the creation of a Miyawaki Forest, and sustainable agricultural projects like mushroom production. Faculty-led workshops and student involvement in maintaining vertical and terrace gardens foster a collaborative environment for promoting sustainability, environmental stewardship, and biodiversity awareness on campus.

Outcome & Achievement

Chitkara University contributes to SDG 15 (Life on Land) through sustainable agricultural research, promoting eco-friendly rice cultivation. The campus fosters environmental education and green initiatives, including afforestation and biodiversity conservation. Collaborations with government and NGOs support sustainable land use, while the **Chitkara Innovation Incubation** Foundation nurtures green tech startups, advancing land sustainability.

HIGHLIGHTS

Greening the Campus

- ***Tree Plantation Drives***
  Held regularly to increase green cover.
- ***Miyawaki Forest***
  Developed for dense native tree growth.
- ***Vertical & Terrace Gardens***
  Enhance green spaces in limited areas.
- ***Green Walkways & Open Spaces***
  Support biodiversity and provide eco-friendly zones.

Sustainable Agriculture

- ***Organic Gardening***
  Promotes chemical-free cultivation.
- ***Mushroom Production Unit***
  Supports sustainable food initiatives.

Waste & Pollution Management

- ***Composting Units***
  Convert organic waste into usable manure.
- ***Ban on Single-Use Plastics***
  Implemented to reduce pollution.
- ***Cleanliness Drives***
  Encourage eco-conscious habits.

Water Conservation

- ***Rainwater Harvesting Systems***
  Installed to support groundwater recharge.

Awareness & Student Involvement

- ***Environmental Awareness Programs***
  Educate the campus community.
- ***Eco-Clubs***
  Lead sustainability campaigns and activities.

Research & Innovation

- ***Biodiversity Research Projects***
  Focus on conservation and land use solutions.

Student Activities
37

Community Partnership & Social Impact

Life on Land, the university partners with environmental groups to promote biodiversity conservation, reforestation, and sustainable land management. Through student-led projects on afforestation and wildlife protection, Chitkara University contributes to local conservation efforts and the protection of ecosystems, helping safeguard life on land.



Sustainable Campus Operations

Chitkara University supports SDG 15 by enhancing biodiversity and protecting natural habitats on campus. Through Green landscaping like MIYAWAKI FOREST, VERTICAL and TERRACE GARDENS and activities like tree plantation drives, swacchata activities and pollution control efforts foster a healthy ecosystem. The university's sustainable waste and water management practices prevent harm to nearby land and wildlife, demonstrating a strong commitment to preserving life on land.

Publications
93



PUBLICATIONS

Conference Paper



1 IoT-enabled deep learning framework for accurate animal head tracking
Chabra,G., Dua,B., Kaushik,S., ... Sethi,M., Kansal,I.
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2 Unlocking sustainable tourism: A holistic examination of mobile applications impact and evolution in travel experiences (2013-2023)
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14 Safeguarding Biodiversity: Remote Forest Poaching Camp Detection with CNN and Spatial Transformer Networks
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Article

1 AgriFusion: A Low-Carbon Sustainable Computing Approach for Precision Agriculture Through Probabilistic Ensemble Crop Recommendation
Mahesh,T.R., Thakur,A., Velmurugan,A.K., ... Alzahrani,S., Alojail,M.A.

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2 Modified diatomite for soil remediation and its implications for heavy metal absorption in Calendula officinalis
Samani,M., Ahlawat,Y.K., Golchin,A., ... Baybordi,A., Mishra,S.

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3 Effects of palm oil fuel ash and crumb rubber on mechanical and thermal properties of sustainable engineered cementitious composites
Rahman,M.H., Kong,S.Y., Lam,B.Y.B., ... Leong Sing,W., Paul,S.C.

Journal of Building Engineering, 2024

4 Integrating deep learning techniques for effective river water quality monitoring and management
Chellaiah,C., Anbalagan,S., Swaminathan,D., ... Sharma,B., Amesho,K.T.

Journal of Environmental Management, 2024

5 Design and implementation of closed-loop water reuse systems in urban and industrial settings for maximizing resource recovery and minimizing waste
Sharma,K.K., Nagabhooshanam,N., Dasi,S., ... Srinivas,B., Rajaram,A.

Desalination and Water Treatment, 2024

6 Proline and other physiological changes as an indicator of abiotic stress caused by heavy metal contamination
Salla,H.R., Al-Kalbani,H., Al-Qalhati,S., ... Sandeep,K.V., Saradhi Settaluri,V.

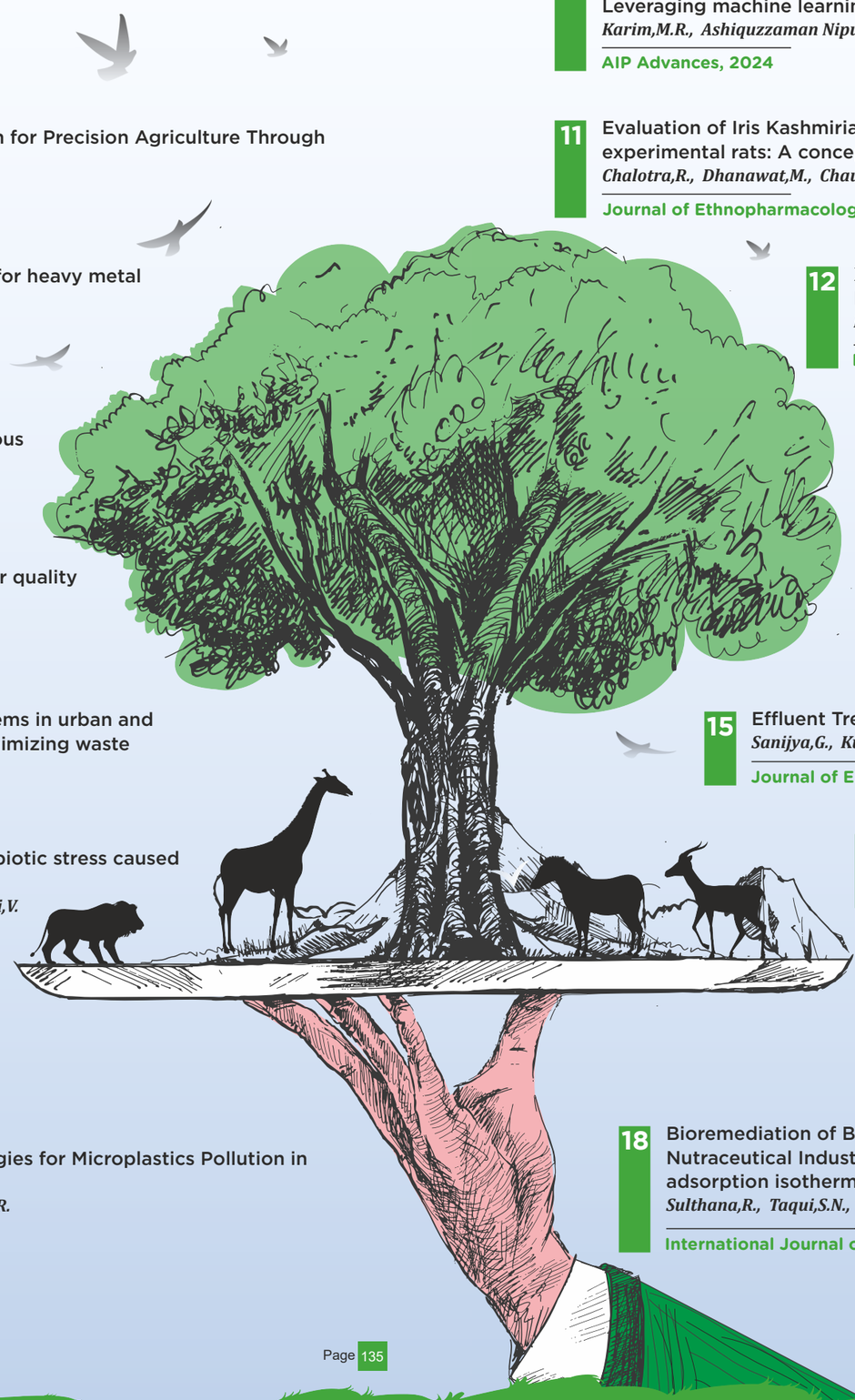
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7 Developing a predictive machine learning model and a kinetic model for the bioremediation of terrestrial diesel spills
Maluleka,K., Roopchund,R., Seedat,N., Sillanpää,M.A.

Results in Engineering, 2024

8 Exploring the Ecotoxicological Effects and Mitigation Strategies for Microplastics Pollution in Aquatic Ecosystems
Singh,A., Nagabhooshanam,N., Kulshreshtha,K., Sharma,K.N., Kumar,P.R.

Global Nest Journal, 2024



9 Comparative Predictive Analysis through Machine Learning in Solar Cooking Technology
Chaudhari,K.S., Walke,P.V., Shelare,S.D.

International Journal of Electrical and Computer Engineering Systems, 2024

10 Machinability investigation of natural fibers reinforced polymer matrix composite under drilling: Leveraging machine learning in bioengineering applications
Karim,M.R., Ashiquzzaman Nipu,S.M., Hossain Shawon,M.S., ... Islam,S., Ammarullah,M.I.

AIP Advances, 2024

11 Evaluation of Iris Kashmiriana Baker plant extracts against nociception and rheumatoid arthritis in experimental rats: A concept proof by In-silico model
Chalotra,R., Dhanawat,M., Chauhan,S., Mujwar,S., Gupta,S.

Journal of Ethnopharmacology, 2024

12 XAI-Powered Smart Agriculture Framework for Enhancing Food Productivity and Sustainability
Martin,R.J., Mittal,R., Malik,V., ... Hossain,M.A., Swapna,S.L.

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13 Detection of Pine Wilt Disease Using AAV Remote Sensing With an Improved YOLO Model
Wang,L., Wang,T., Zhao,J., Gadekallu,T.R., Fang,K.

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14 Focusing The Removal Of Dyes From Wastewater Effluents
Dinesh Kumar,M., VijayaShanthy,S., Krishnakumar,S., ... Vadivel,M., Vivek,S.

Journal of Environmental Protection and Ecology, 2024

15 Effluent Treatment Of Wastewater in Dairy Processing Industry
Sanijya,G., Kumar,M.M., Tejaswini,N., ... Gupta,S., Shanmugam,P.

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16 Sustainable Energy Integration For Seawater Desalination
Samuel Thanaraj,M., Poomalai,R., Vibin,R., ... Perumal,M.R., Vadivel,M.

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17 Predicting normalized difference vegetation index using a deep attention network with bidirectional GRU: a hybrid parametric optimization approach
Khodadadi,N., Towfek,S.K., Zaki,A.M., ... Abdelhamid,A.A., Eid,M.M.

International Journal of Data Science and Analytics, 2024

18 Bioremediation of Brilliant Green cationic dye from water using Nutraceutical Industrial Coriander Seed Spent as an adsorbent: adsorption isotherms, kinetic models, and thermodynamic studies
Sulthana,R., Taqui,S.N., Deepa Kumari,H.N., ... Jathar,L.D., Shelare,S.D.

International Journal of Phytoremediation, 2024

19 Biosorption of Hexavalent Chromium by Shewanella putrefaciens MTCC 8104: Response Surface Methodology Optimization and Mechanistic Insights
Sable,H., Kumar,V., Mishra,R., ... Sharma,K.N., Verma,R.K.
Indian Journal of Microbiology, 2024

20 Anticipating Hydroelectric Reservoir Water Levels with Boosted Grey Wolf Optimized Adaptive Random Forest Approach
Kaushik,N., Saini,R., Kalra,H., ... Singh,S., Ramachandran,T.
Nanotechnology Perceptions, 2024

21 Artificial Intelligence-Based Assessment of Financial Problems among Small and Medium-Sized Businesses
Padmanabhan,S., Chakraborty,R., Agarwal,T., ... Sharma,P., Parmar,Y.
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22 Leveraging Drone-Assisted Surveillance for Effective Forest Conservation: A Case Study in Australia's Daintree Rainforest
Melhim,L.K.B., Jemmali,M., Boulila,W., ... Campbell,H.A., Amdouni,H.
IEEE Internet of Things Journal, 2024

Review

1 Unveiling the Therapeutic Potential and Conservation Strategies for Rare and Endangered Medicinal Plants in Traditional Chinese Medicine: A Comprehensive Review
Rastogi,S., Verma,R., Raju,R., ... Maheshwari,R., Pandhare,Y.L.
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2 Nano-biogenic heavy metals adsorptive remediation for enhanced soil health and sustainable agricultural production
Jha,A., Barsola,B., Pathania,D., ... Khosla,A., Chaudhary,V.
Environmental Research, 2024

3 Biodiversity prospecting for phytoremediation programs intended for utilizing polluted lands and obtaining bioeconomy
Pandey,V.C., Malik,G., Roy,M., Srivastava,A.K., Udpadhay,S.K.
Land Degradation and Development, 2024

4 Recent advances in microbial-assisted degradation and remediation of xenobiotic contaminants; challenges and future prospects
Priya,A.K., Muruganandam,M., Kumar,A., ... Prakash,C., Ubaidullah,M.
Journal of Water Process Engineering, 2024

5 Advanced oxidation and biological integrated processes for pharmaceutical wastewater treatment: A review
Adeoye,J.B., Tan,Y.H., Sie Yon,L., ... Mubarak,N.M., Khalid,M.
Journal of Environmental Management, 2024

6 Silver nanoparticle ecotoxicity and phytoremediation: a critical review of current research and future prospects
Samal,D., Khandayataray,P., Sravani,M., Murthy,M.K.
Environmental Science and Pollution Research, 2024

Note

1 Virtual reality as a sustainable alternative for authentic and satisfying tourism experiences
Sharma,I., Lim,W.M., Aggarwal,A.
Tourism Recreation Research, 2024

Book Chapter

1 PIXELS TO PLANET: A GLOBAL PERSPECTIVE ON SUSTAINABILITY ACROSS DIFFERENT INDUSTRIES
Gupta,P., Bhavsar,S.S.
Contemporary Studies in Economic and Financial Analysis, 2024

2 Startups valuation in a rapidly evolving entrepreneurial landscape: A systematic review
Sharma,R., Mehta,K., Gupta,R., Yu,P.
Fostering Innovation in Venture Capital and Startup Ecosystems, 2024

3 Editorial: Global Sustainability: Trends, Challenges, and Case Studies
Kulkarni,S.
World Sustainability Series, 2024

4 Sustainable Cassava: A Case Study of Global Sustainability
Kulkarni,S.
World Sustainability Series, 2024



16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Research and Development

Chitkara University advances peace, justice, and strong institutions through research that supports transparent governance and ethical practices. The University undertakes policy-focused research in collaboration with government departments, providing evidence-based insights to strengthen institutional frameworks and promote effective public policy. These efforts reflect Chitkara's commitment to fostering justice, accountability, and social progress through impactful research and innovation.

Educational Outreach & Curriculum Development

A robust curriculum and effective outreach programs at Chitkara University promote governance, ethics, and social justice. The university teaches law, political science, jurisprudence, research and publishing ethics, public policy, and ethics to help students understand and improve institutions and promote peace. Researching human rights, conflict resolution, and the rule of law promotes critical thinking and problem-solving. Chitkara promotes justice, equality, and civic responsibility through community engagement. Chitkara Radio FM 107.8 promotes peace and justice locally.

Community Partnership & Social Impact

Chitkara University fosters intercultural cooperation, community engagement and strong institutional partnerships. The University has formal MoUs and policies to identify and collaborate with local stakeholders, including five adopted villages, ensuring meaningful community development. Faculty members actively contribute as external experts—such as the Chairperson of DRTC, Central Assessment Board and Secretary of the Fire and Safety Association of India—offering specialized advice to local, regional and national governments. The University also conducts outreach, up skilling and capacity-building programs for policymakers on areas like economics, law, technology, migration and climate change, promoting peace, inclusivity and sustainable governance.

Sustainable Campus Operations

Chitkara University fosters a transparent, inclusive and accountable governance framework. Its highest governing bodies include elected representation from students, faculty and staff through committees such as ICC, DAAC, Anti-Ragging and Hostel Discipline Committees, alongside local stakeholders including government nominees from the Government of Punjab and eminent educationists. The University maintains an Anti-Corruption Policy and a structured Finance Committee to ensure ethical, transparent financial practices. In addition, Chitkara University upholds a clear written policy on Academic Freedom, enabling faculty at all levels to freely pursue research and exercise teaching autonomy in their areas of expertise. Through strong governance, academic freedom, conflict-resolution mechanisms and inclusive participation, the University continues to promote peace, justice and integrity across its campus operations.

Student & Faculty Engagement

Chitkara University fosters strong student and faculty engagement in SDG 16 through initiatives like the Legal Aid Clinic, offering free legal support to underprivileged communities. Students participate in events such as the National Symposium of Lawyers, gaining insights from professionals, while workshops on human rights, gender equality and national unity help build advocacy skills that promote justice, peace and inclusivity. The University also provides expert advice to local, regional and national government bodies through faculty who serve on key committees and advisory boards, contributing evidence-based guidance that supports policy development and strengthens public systems.

Publications
44

Courses
25

Student Activities
70

Outcome & Achievement

Chitkara University excels in SDG 16: Peace, Justice, and Strong Institutions. It was ranked for Governance Performance in the QS World University Rankings - Sustainability 2024, reflecting strong institutional practices. Additionally, the university earned recognition for Employer Reputation and International Research Network in the QS World University Rankings 2025, showcasing its commitment to fostering a just, reputable, and collaborative academic environment.

Highlights

Legal Aid Clinic

The legal aid clinic provided legal guidance and support to the villagers this year also. The efforts are to provide them with a path they could follow and the right guidance for legal support.

Muntazar: An Asian Parliamentary Debate

The debate created a platform for students toexchange diverse ideas in a structured and respectfulmanner. Participants engaged in parliamentary-stylediscussions on contemporary social and politicalissues. The event promoted critical thinking,tolerance, and peaceful dialogue. It emphasized howopen debate and mutual respect are crucial forbuilding inclusive societies. Students honed their skillsin argumentation while upholding values of fairnessand empathy. This activity supported SDG 16 byfostering peaceful conflict resolution andparticipatory decision-making.

National Symposium of Lawyers

This event, hosted by Chitkara Law School, gathered legal professionals to share insights into the legal profession, aiming to inspire students toward a successful career in advocacy. Esteemed speakers provided practical advice and shared personal experiences, empowering students to navigate the legal profession effectively.

Conference Paper

1 Sustainable Approaches for Recycling Solar Panel Materials: A Circular Economy Perspective
Yadav,R., Kumar Singla,A., Ghalwan,M., ... Vyas,A., Karthikeyan,R.
E3S Web of Conferences, 2024

2 Optimal Energy Storage System Selection: A Decision Support Framework
Rozhdestvenskiy,O.I., Bobba,P.B., Singh,D.K., Cajla,P.
E3S Web of Conferences, 2024

3 Cutting-Edge Patterns of Preemption: Classifying Violent Incidents with CNN-SVM Intelligence
Suryavanshi,A., Mehta,S., Tiwari,D., Aeri,M., Jain,V.
2024 2nd World Conference on Communication and Computing, WCONF 2024, 2024

4 Empowering a Violence Prevention with CNN-SVM Based Classification
Suryavanshi,A., Mehta,S., Jain,A.A., Choudhary,A., Jain,V.
2024 5th International Conference for Emerging Technology, INCET 2024, 2024

5 Cause and Effect of Dementia on Women in Technological Environment
Sardana,A., Monga,C.
Lecture Notes in Networks and Systems, 2024

6 Innovative Fracture Diagnosis: MobileNet CNN Approach for Precise Bone Fracture Detection and Classification
Mittal,K., Singh Gill,K.S., Chauhan,R., Kapruwan,A.
2024 International Conference on Intelligent Systems for Cybersecurity, ISCS 2024, 2024

7 Counseling and reintegration into the workforce after experiencing discrimination due to anxiety
Kapoor,T., Yadav,A., Agrawal,S., Homavazir,Z., Nilkant,D.
Multidisciplinary Science Journal, 2024

8 Enhancing Cyberbullying Detection: A Multi-Algorithmic Approach
Pendela,N.P.S., Janet,K.A., Yadav,A.M.R., ... Shanmugasundaram, H., Kukreja,V.
2024 International Conference on Advances in Data Engineering and Intelligent Computing Systems, ADICS 2024, 2024

9 Strengthening Cybersecurity: A Comparative Study of KNN and Random Forest for Spam Detection
Joshi,S., Japanpreet,, Rani,L.L., Sarangi,P.K., Dubey,V.P.
Lecture Notes in Networks and Systems, 2024

10 IoT-Enabled CNN for Real-Time Forest Fire Detection: Fusing Technology to Safeguard Nature
Sharma,I., Neema,S.
3rd International Conference on Innovative Mechanisms for Industry Applications, ICIMIA 2023 - Proceedings, 2023

11 Tackling Okiru Attacks in IoT with AI-Driven Detection and Mitigation Strategies
Khan,A., Sharma,I.
2023 International Conference on Power Energy, Environment and Intelligent Control, PEEIC 2023, 2023

12 Detection of Cyberbullying Using Modified Dense Framework
Malik,V., Mittal,R., Singh,V., ... Singh,S.V., Diwvedi,S.P.
2023 10th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering, UPCON 2023, 2023

13 Investigation of Ensemble Learning Approach for Early Detection of Traffic from Tor Browser
Kumari,A., Sharma,I.
2023 Annual International Conference on Emerging Research Areas: International Conference on Intelligent Systems, AICERA/ICIS 2023, 2023

14 Cyberbullying Avoidance and Impact from Online Tweets
Swamy,M., Gopalakrishnan,J., Dhasarathan,D., ... Shanmugasundaram,H., Kukreja,V.
2nd International Conference on Automation, Computing and Renewable Systems, ICACRS 2023 - Proceedings, 2023

15 SecuGrid: Artificial Intelligent Enabled Framework for Securing Power Grid Communication using Honeypot
Khanna,T., Kaur,A., Dubey,R., Sharma,I.
International Conference on Sustainable Communication Networks and Application, ICSCNA 2023 - Proceedings, 2023

16 Securing Social Spaces: Cyberbullying Detection with ML and DL on Social Media Platforms
Pahuja,V., Neema,S., Dubey,R.
International Conference on Sustainable Communication Networks and Application, ICSCNA 2023 - Proceedings, 2023

17 Understanding the Ripple Effect: Exploring the Influence of Cyber Crime on Social Media and its Consumer Behavior
Panda,V., Mishra,A., Sharma,M.
2023 International Conference on Sustainable Emerging Innovations in Engineering and Technology, ICSEIET 2023, 2023

18 Quantifying Performance of Human using AI : A Data-Driven Exploration
Malhotra,A.
2023 3rd International Conference on Advance Computing and Innovative Technologies in Engineering, ICACITE 2023, 2023

19 A Novel Framework for Harnessing AI for Evidence-Based Policymaking in E-Governance Using Smart Contracts
Upreti,K., Verma,A., Mittal,S., ... Haque,M., Ali,S.
Communications in Computer and Information Science, 2023

Article

1. Analyzing the influencing factors and developing Artificial Neural Network-based prediction model for water turbidity
K.I,P.L.A., Vidya,A., Anupama,A., ... Indu,M.S., V,B.
Case Studies in Chemical and Environmental Engineering, 2024

2. INTEGRATED STRATEGIES FOR ADDRESSING THE WATER SCARCITY
Gowri,V., Thenmozhi,S., Panneerselvam,A.S., ... Gupta,R., Sathish Kumar,V.
Journal of Environmental Protection and Ecology, 2024

3. XAI for Industry 5.0 -Concepts, Opportunities, Challenges and Future Directions
Gadekallu,T.R., Maddikunta,P.K.R., Boopathy,P., ... Zhu,Y., Dev,K.
IEEE Open Journal of the Communications Society, 2024

4. From Bystander to Protector: Reducing Impact of Cyberbullying on Employee Innovation Behavior Through Bystander Intervention
Ullah,S., Shaukat,M.R., Kukreti,M., Sami,A., Dangwal,A.
International Journal of Bullying Prevention, 2024

5. The Ripple Effects of Bullying: Impact on Employees and Their Performance
Tiwari,M., Mathur,G., Narula,S.
FIIB Business Review, 2024

6. Cryptocurrency as a Slice in Investment Portfolio: Identifying Critical Antecedents and Building Taxonomy for Emerging Economy
Manohar,S.
Asia-Pacific Financial Markets, 2024

7. A secure and efficient mobile ID framework for authentication with enhanced ECC
Kamal,K.K., Gupta,S., Joshi,P., Kapoor,M.
International Journal of System of Systems Engineering, 2024

8. Integrating optical security management with optical-layer controller architecture for enhanced network security
Babbar,H., Rani,S.
Internet Technology Letters, 2024

9. European identity and European political parties
Greco,S.
Journal of Contemporary European Studies, 2024

10. A Simplified and Affordable Arsenic Filter to Prevent Arsenic Poisoning: Lab-Scale Study and Pilot Experiment
Panda,A.P., Jha,U., Kumar,S.A., Swain,S.K.
ACS ES and T Water, 2023

11. Prevalence and Risk Factors for Exposure of Healthcare Professionals of Delhi (India) to Physical and Psychological Violence: A Cross-Sectional Study
Bassi,S., Bansal,R., Khokhar,A.K., Aggarwal,V.
Journal of the Indian Medical Association, 2023

12. Insurance Penetration and Institutional Spillover on Economic Growth: A Dynamic Spatial Econometric Approach on the Asian and Europe Region
Fernando,K.D.U.D., Tharanga,T.M.N., Dewasiri,N.J., ... Grima,S., Thalassinos,E.I.
Journal of Risk and Financial Management, 2023

13. Building a Secure Platform for Digital Governance Interoperability and Data Exchange Using Blockchain and Deep Learning-Based Frameworks
Malik,V., Mittal,R., Dinesh,M., ... Srinivasan,K., Mittal,A.
IEEE Access, 2023

14. Medicalization of sexuality and sexual health: A perspective review
Goyal,R., Chandran,D., Goyal,R., ... Chopra,H., Dhama,K.
Journal of Experimental Biology and Agricultural Sciences, 2022



15 Siamese Convolutional Neural Network-Based Twin Structure Model for Independent Offline Signature Verification
Sharma,N., Gupta,S., Mohamed,H.G., ... Gupta,D., Goyal,N.
Sustainability (Switzerland), 2022

16 Smart Fog-Based Video Surveillance with Privacy Preservation based on Blockchain Signature Verification
Dave,M., Rastogi,V., Miglani,M., Saharan,P., Goyal,N.
Wireless Personal Communications, 2022

17 Bibliometric Mapping of Trends, Applications and Challenges of Artificial Intelligence in Smart Cities
Harnal,S., Sharma,G., Malik,S., ... Simaiya,S., Bagga,D.
EAI Endorsed Transactions on Scalable Information Systems, 2022

Book Chapter

1 Integrating digital citizenship education in the contemporary educational ecosystem
Malik,K.
Digital Analytics Applications for Sustainable Training and Education, 2024

2 Sustainable ai and cybersecurity: Addressing ethical challenges in the digital age
Verma,J., Snehi,M., Kansal,I., ... Sharma,P.S., Kumar,R.
Sustainability Principles and Applications in Engineering Practice, 2024

3 Data ethics in digital age: Practices and strategies for responsible data handling
Chauhan,S., Sharma,D., Jindal,P.
Banktech 4.0: The Next Wave of Transformative Banking, 2024

4 Digital footprints and the battle for data sovereignty: Digital privacy, security, and ownership
Sharma,I., Aggarwal,A.
Driving Decentralization and Disruption With Digital Technologies, 2024

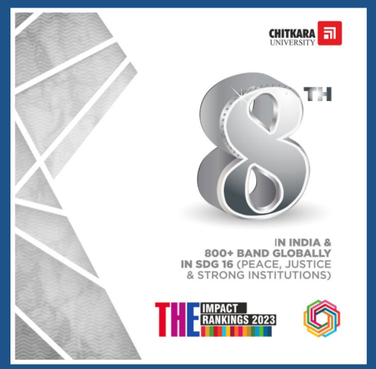
5 Creator's economy in metaverse platforms: Empowering stakeholders through omnichannel approach
Singla,B., Shalender,K., Singh,N.K.
Creator's Economy in Metaverse Platforms: Empowering Stakeholders Through Omnichannel Approach, 2024

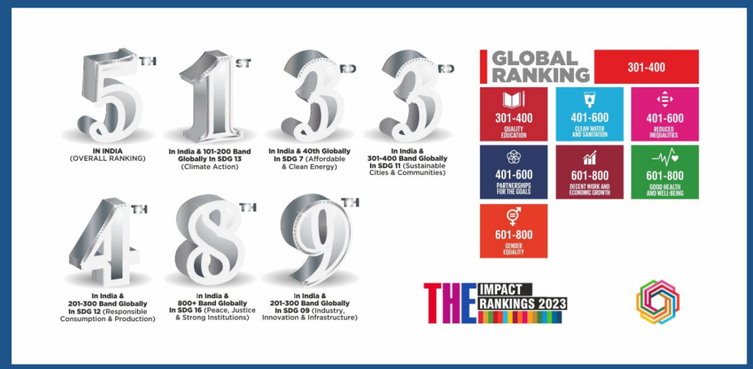
6 Green management - A new paradigm in the world of business
Taneja,S., Gupta,S., Singh,A., Bhatnagar,M., Gaur,A.
Green Management - A New Paradigm in the World of Business, 2023

7 Healthcare frauds: A threat towards sustainability
Kaur,G., Tomar,S., Bansal,M.
Innovations and Sustainability in Society 5.0, 2023

8 Robotic process automation applications area in the financial sector
Kaswan,K.S., Dhatterwal,J.S., Grima,S., Sood,K.
Intelligent Multimedia Technologies for Financial Risk Management: Trends, Tools and Applications, 2023

9 Role and Significance of Data Protection in Risk Management Practices in the Insurance Market
Trivedi,S., Malik,R.
Big Data Analytics in the Insurance Market, 2022



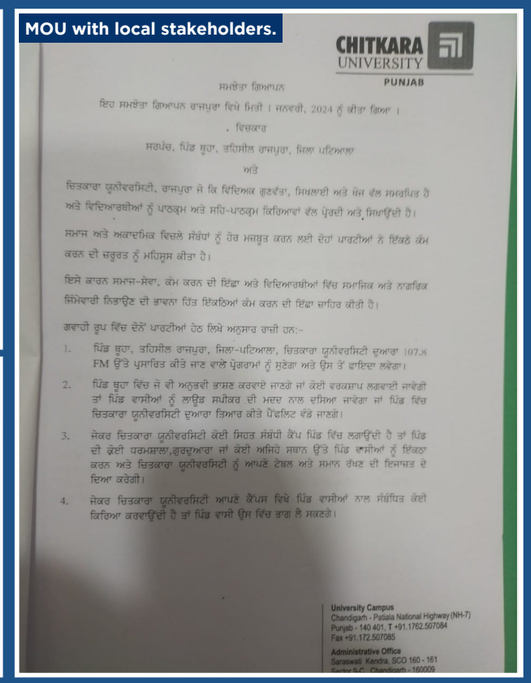


















17 PARTNERSHIPS FOR THE GOALS

Research and Development

Chitkara University's research on fostering global partnerships for sustainable development. Initiatives like ***the Centre of Excellence for Digital Marketing Strategy & Analytics and Sustainable Supply Chain aim to drive innovation.*** Global Week, student exchange programs, and collaborations with over 400 organizations worldwide enhance learning, research, and cross-border cooperation, contributing to the achievement of the SDGs.

Educational Outreach & Curriculum Development

Chitkara University integrates sustainability and SDG education across its curriculum, ensuring all students gain practical knowledge of global challenges. Courses such as Environmental Sciences, Energy Storage Systems and Charging Infrastructure for EVs, Climate Change and Disaster Management, and Human Rights, Values & Professional Ethics strengthen students' understanding of sustainability and ethics. Dedicated outreach programs engage alumni, local residents, and communities, while collaborations with global institutions, industries, and government bodies promote cross-sector cooperation and responsible global citizenship.

Community Partnership & Social Impact

Chitkara University actively contributes to SDG policy development by collaborating with national and regional government bodies to identify challenges, develop strategies and monitor progress. It regularly hosts cross-sectoral dialogues and conferences with government, NGOs and industry to advance SDG discussions. The university engages in international collaborations for SDG data collection, research and best practice development through partnerships with institutions like GRIHA Council, Griffith University, DHBW, etc. It also works with national and international organizations on student volunteering, joint research and creation of educational resources, fostering a unified approach to achieving the Sustainable Development Goals.

Sustainable Campus Operations

Chitkara University advances SDG 17 by building partnerships for sustainable development. Collaborations with academic institutions, industries, and government bodies strengthen research, innovation, and resource-sharing for mutual growth. Through joint sustainability initiatives and community programs, the university fosters impactful alliances that drive progress toward shared sustainability goals.

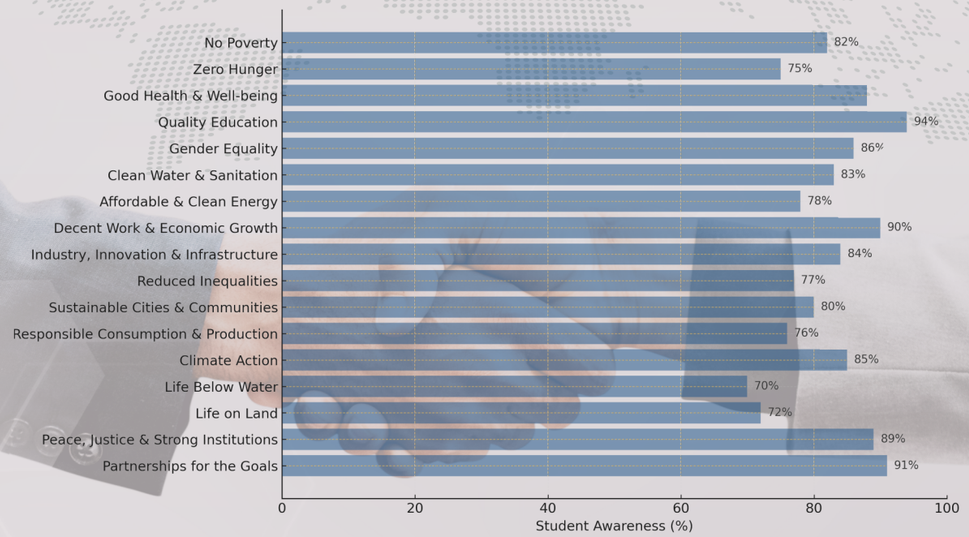
Publications
112

Collaboration
400+

Courses
21

Student Activities
359

Chitkara University: Student Knowledge on Sustainable Development Goals



Student & Faculty Engagement

Chitkara University strengthens global and local partnerships to accelerate progress on sustainable development goals. Collaborations with international universities, industry partners, and NGOs foster knowledge exchange and innovation. Programs like Global Week and student exchange initiatives promote interdisciplinary learning and research, driving collective action to address challenges in education, environment, and social development.

Outcome & Achievement

Chitkara University actively supports **SDG 17: Partnerships for the Goals** through strategic collaborations. It was recognized as one of the **Top 5 Innovative Institutes** by the **Confederation of Indian Industry (CII)** at the **CII Industrial Innovation Awards 2023.** Additionally, the university participated in the **QS Higher ED Summit: Asia Pacific-2023,** earning a **certificate of recognition** for its contribution to the **India Pavilion.**



Highlights

Global Week

One of our best practices, where faculty from International Universities spread all over the world visit our University to share their teachings and experiences with our scholars for them to be able to experience the benefits of International learning.

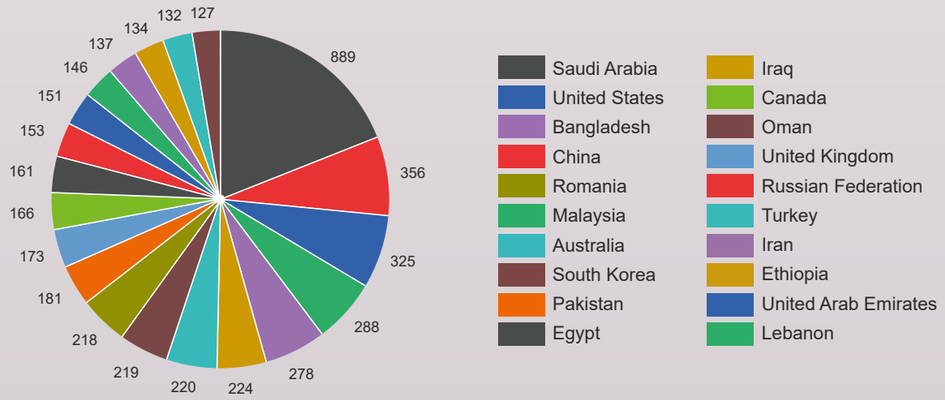
Chitkara Mandi

A collaboration with the local villagers where students learn the principles of business, marketing, and financing as they provide business to the villagers, and it leads to profitable business for the villagers with least burden of carbon emission as local purchase helps reduce transportation and middlemen are also eliminated.

Collaborations initiatives

Towards Sustainability An ESG Journey for Management Students: *This initiative introduced management students to environmental, social, and governance (ESG) frameworks. Experts from academia and industry discussed how ESG practices drive sustainable growth. Students engaged in case studies on corporate sustainability and governance. The program emphasized collaboration between institutions and industries to meet sustainability goals. It prepared students to integrate ESG principles into future careers. The event supported SDG 17 by fostering cross sector cooperation for sustainability.*

Top Collaborating Countries with Publication Count



PUBLICATIONS

Conference Paper



1. Exploring the Influence of Change of Land Use on Place Identity
Behl,S., Kaur,P.
Lecture Notes in Civil Engineering, 2025

2. Text pre-processing techniques in addressing fake news
Dhiman,P., Kaur,A.
Computational Methods in Science and Technology - Proceedings of the 4th International Conference on Computational Methods in Science and Technology, ICCMST 2024, 2025

3. Gendered spatial segregation in traditional residences: Havelis of Rajasthan, India
Bhandari,H., Singhal,A., Lisha,
AIP Conference Proceedings, 2024

4. Long COVID in India and its impact on mental health: A comprehensive review
Upadhyay,S., Anand,G., Pasricha,C., Singh,R.P.
AIP Conference Proceedings, 2024

5. A study of the feasibility of Hybrid District Heating System in the cold climates of Northern India
Kumar, R.
AIP Conference Proceedings, 2024

6. Enhanced radar-based human suspicious activity classification using transfer learning methods
Pareek, A., Kadian, P., Arora, S.M., ...Khullar, V., Popli, R.
AIP Conference Proceedings, 2024

7. Design of a two-element super ultra-wide MIMO antenna for diverse applications (Diversifying)
Thakur,E., Giri,N.C., Gupta,A., ... Gupta,J.M., Singh,M.
AIP Conference Proceedings, 2024

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