DST-CENTRE FOR POLICY RESEARCH
PANJAB UNIVERSITY CHANDIGARH

ACTIVITY BOOKLET (2024-25)

DST-Centre for Policy Research (CPR)
Guru Teg Bahadur Bhawan, Panjab University, Sector 14, Chandigarh, 160014

Professor Renu Vig
Vice - Chancellor

PANJAB UNIVERSITY
CHANDIGARH, *India* 160 014

MESSAGE

DST-Centre for Policy Research at Panjab University, Chandigarh was established by Department of Science and Technology (DST), Government of India in 2014. The Centre has since then been actively involved in the promotion of Industry-Academia (I-A) interactions, enhancing the Intellectual Property (IP) and Technology Transfer (TT), and the promotion of public-private partnership ecosystem in India. Over the years, the Centre has drawn evidence-based recommendations and submitted them to the Government of India for further deliberations.

By embracing the rapidly evolving activities in the domain of Science, Technology and Innovation, I believe with DST-led activities at Panjab University will stimulate the innovation culture at PU, aligned with our nation's aspirations and priorities.

I commend the Centre for conducting crucial studies and contributing to the mission of national importance. I would like to congratulate DST-CPR, PU for its completion of the study, "A Comprehensive Analysis of India's Innovation Ecosystem by Mapping Patent Landscape of Higher Educational Institutions and Research Organizations" in 2025. I am also aware that the Centre has submitted a proposal for the creation of an "Indian Patent Trust System" to DST for further deliberations. The Centre is also working on developing a technology transfer handbook for efficient management of technology transfer offices.

My heartfelt appreciation to the entire team led by Prof. Kashmir Singh for exemplifying DST-CPR, Panjab University's commitment to high-impact research and its application in resolving pressing societal issues.

My best wishes to DST-CPR, PU for its future endeavours and for successfully fulfilling the new mandates.

(Renu Vig)

Telephones : 0091-172-2541945 (Office), Fax : 0091-172-2541022, E-mail : vc@pu.ac.in
Website : www.pu.ac.in

Department of Science & Technology
Govt. of India

DST- Centre for Policy Research
at
Panjab University, Chandigarh
(Estt. Under the Panjab University Act VII 1947 enacted by the Govt. of India)

DST-CENTRE FOR POLICY RESEARCH
PANJAB UNIVERSITY CHANDIGARH

Prof. Kashmir Singh
Principal Investigator & Coordinator
Phone: +91 9501684096
E. mail: dstprc2014@pu.ac.in

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Dated: 12/6/25

Dear Readers,

It gives me immense pleasure to present the Annual Activity Booklet 2024–25 of the DST-Centre for Policy Research (DST-CPR), Panjab University, Chandigarh. This booklet showcases the work we have undertaken over the past year.

This activity booklet brings together the key initiatives, activities performed, and milestones we have achieved over the year and introduce our ongoing commitment to strengthen the science, technology, and innovation (STI) policy framework in India. This booklet gives you glimpse into the objectives we achieved, the partnerships we nurtured, the impact we have created, and the objectives we aimed to achieve in next year.

Over the past year, the centre has actively contributed to national policy themes including intellectual property rights, Public Private Partnership (PPP), technology transfer, and Industry-Academia collaborations. We also have focused on various other policy frameworks that includes but not limited to foreign direct investments (FDI), Corporate social responsibility (CSR), Patent landscape of India, boosting I-A collaborations and others, through our evidence-based studies and stakeholder consultations. We have organized a series of workshops, policy dialogues, and training programs for researchers, innovators, and policymakers at national levels. Our collaborations with central and state agencies, academic institutions, and industry have grown deeper and more impactful.

This year also we have renewed our emphasis on aligning our initiatives with national missions and global frameworks that includes India's commitment to Atmanirbhar Bharat and alignment with sustainable development goals.

I wish to mention that this would have been possible with the support and wisdom of our Local Advisory Committee, who have consistently provided valuable guidance and directions. I also wish to sincerely thank the Co-Principal Investigators (Co-PIs), academic advisors, and domain experts associated with DST-CPR, for their feedbacks and suggestions. Their insights have helped us stay in alignment with both academic and policy ecosystems.

I am indeed grateful to Department of Science and Technology, India, for their support and guidance, which has made our work possible. I am also thankful to the hardworking and dedicated team at DST-CPR who is the reason behind all the achievement, our collaborators across various sectors, and all those who have participated in our research and enriched our programs. As you will go through the pages of this booklet, I hope you will find visions, and opportunities to engage with DST-CPR in shaping robust STI policy landscape for India.

At last, I wish to say "Let us continue working together towards a future where science and innovation serve as powerful tools for making our Bharat Atamnirbhar".

Thank you so much

Kashmir Singh
(Prof Kashmir Singh)

For correspondence :- Prof. Kashmir Singh, Coordinator, DST – Centre for Policy Research, Guru Teg Bahadur Bhawan, Panjab University, Sector-14, Chandigarh-160014

Contents

Abbreviations

AGNES	African Group of Negotiators Expert Support
AI	Artificial Intelligence
Amity	Amity University
ARISE	Alliance for Disaster Resilient Societies
BRICS	Brazil, Russia, India, China, and South Africa
BRSR	Business Responsibility and Sustainability Report
CAIDP	Center for AI & Digital Policy
CDRI	Coalition for Disaster Resilient Infrastructure
CGC	Chandigarh Group of Colleges
Chitkara	Chitkara University
CIFAL	Centre International de Formation des Autorités et Leaders
CII	Confederation of Indian Industry
CIIPP	Centre for Industry Institute Partnership Programme
CODATA	Committee on Data for Science and Technology
CODATA-DETG	Committee on Data – Data Ethics Think Group
CPR	Centre for Policy Research
CRIKC	Chandigarh Region of Innovation and Knowledge Cluster
CSIR	Council of Scientific & Industrial Research
CSR	Corporate Social Responsibility
CU	Chandigarh University
DBT	Department of Biotechnology
DFDI	Development-Focused Foreign Direct Investment
DHR	Department of Health Research
DPADM	Department of Political and Administrative Affairs
DPIDG	Division for Public Institutions and Digital Government
DRDO	Defence Research and Development Organisation
DRM	Disaster Risk Management
DST	Department of Science and Technology

ESD	Education for Sustainable Development
ESG	Environmental, Social, and Governance
FDI	Foreign Direct Investment
FER	First Examination Report
FICCI	Federation of Indian Chambers of Commerce and Industry
FY	Financial Year
GDP	Gross Domestic Product
GERD	Gross Expenditure on Research and Development
GETI	Global Education & Training Institute
GEU	Graphic Era University
GI	Geographical Indication
GoI	Government of India
HEIs	Higher Education Institutions
I-A	Industry-Academia
IAPG	International Association for Promoting Geoethics
IAS	Indian Administrative Service
ICAR	Indian Council of Agricultural Research
ICC	International Chamber of Commerce
ICMR	Indian Council of Medical Research
IFS	Indian Forest Service
IFS	Infrastructure Finance Secretariat
IISc	Indian Institute of Science
IIT	Indian Institute of Technology
IITB	Indian Institute of Technology, Bombay
IITM	Indian Institute of Technology, Madras
inPASS	Indian Patent Advanced Search System
INST	Institute of Nano Science and Technology
IOASD	International Organization for Academic and Scientific Development
IP	Intellectual Property

IP SAATHI	Scientific Accountability for Accelerating Technology and Innovation through IP
IPC	International Patent Classification
IPID	Intellectual Property for Innovators Department
IPO	Indian Patent Office
IPR	Intellectual Property Rights
IQAC	Internal Quality Assurance Cell
IRC	Industry Research Cell
ISDE	International Society for Digital Earth
JAIN	Jain University
JCT	Jerusalem College of Technology
JITC	Jacksonville Information Technology Council
KIIT	Kalinga Institute of Industrial Technology
KIIT-TBI	KIIT Technology Business Incubator
KPIs	Key Performance Indicators
LIVE	Leading Innovative Ventures and Entrepreneurship
LPU	Lovely Professional University
M.Sc.	Master of Science
MBA	Master of Business Administration
MC	Municipal Corporation
MIT	Massachusetts Institute of Technology
MNC	Multinational Corporation
MOIS	Ministry of the Interior and Safety (Republic of Korea)
MoU	Memorandum of Understanding
MRS	Materials Research Society
MSTQ	Measurement, Standards, Testing, and Quality System
NET	National Eligibility Test
NI	National Instruments
NIFT	National Institute of Fashion Technology
NIRF	National Institutional Ranking Framework

NPTA	National Patent Trust Authority
NRDC	National Research Development Corporation
OECD	Organisation for Economic Co-operation and Development
ONEA	Office for Northeast Asia
PAN	Presence Across Nation
PCT	Patent Cooperation Treaty
PGIMER	Post Graduate Institute of Medical Education and Research
Ph.D.	Doctor of Philosophy
PHDCCI	PHD Chamber of Commerce and Industry
PPPs	Public-Private Partnerships
PSCST	Punjab State Council for Science and Technology
PTS	Patent Trust System
PU	Panjab University
R&D	Research and Development
RDA	Research Data Alliance
RDFDI	Research and Development Focused Direct Investment
ROI	Return on Investment
SAPCC	State Action Plan on Climate Change
SBIR	Small Business Innovation Research
SBIR	Small Business Innovation Research
SDG-9	Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure)
SDGs	Sustainable Development Goals
SEBI	Securities and Exchange Board of India
SGGSC	Sri Guru Gobind Singh College
SGGSWU	Sri Guru Granth Sahib World University
SHGs	Self-Help Groups
SRISHTI	Science, Research, and Innovation System for High Technology led Initiative
STI	Science, Technology, and Innovation
STIP	Science, Technology, and Innovation Policy
SWOT	Strength, Weakness, Opportunities, and Threats

TEC	Technology Enabling Centre
TISC	Technology and Innovation Support Centers
TRE	Translational Research Ecosystem
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TRL	Technology Readiness Levels
TTO	Technology Transfer Office
UGC	University Grants Commission
UIAMS	University Institute of Applied Management Sciences
UIFT	University Institute of Fashion Technology
UILs	University-Industry Linkages
UK	United Kingdom
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNITAR	United Nations Institute for Training and Research
UNPOG	United Nations Project Office on Governance
URC	University Relation Cell
USA	United States of America
USOs	University Spin-Offs
UTs	Union Territories
WGC	Women and Gender Constituency
WIPO	World Intellectual Property Organization

1. INTRODUCTION

DST-Centre for Policy Research, Panjab University, Chandigarh

DST-Centre for Policy Research (CPR), Punjab University (PU), Chandigarh was established with a mission to enhance science, technology, and innovation (STI) research and policy planning. Since its inception in 2014, the Centre has been a bridge between academics, industry, and policymakers, fostering collaboration to address critical challenges and opportunities in these spaces. It gave a spur to the Science, Research, and Innovation System for High Technology driven path for India (SRISHTI), a GoI initiative, and the center has flourished ever since by pioneering in achieving SRISHTI's mission, which is to drive inclusive growth in India.

A range of activities are undertaken by DST-CPR, PU with the objective of "Enhancing the STI landscape in India." By performing evidence-based research and establishing conferences, seminars, and brainstorming sessions in order to enhance interaction between the public and commercial sectors, it conducts high-impact research on "STI policies." The institute advocates for the role of IPR in Indian research by providing evidence-based policy recommendations. The Centre has rightly focused on evidence-based strategies to identify and develop significant areas of intellectual property development. This approach enhances the effectiveness and utility of the policies and activities recommended by the Centre through the assurance that they are backed by credible data and studies. In the years since its founding, the centre has built a reputation for conducting detailed assessments of the current STI policy context by identifying loopholes that dissuade private sector investment in R&D.

The Centre provides pragmatic recommendations for legislative modifications that would enhance the environment for private sector involvement based on these findings. By suggesting Public-Private Partnership (PPP) policies to promote R&D in STI, the centre has stimulated private sector participation in R&D. The Centre is committed to creating new models that are uniquely tailored for the specific needs and circumstances of research in India. By enhancing collaboration between public institutions and private companies, these policies aim to drive significant breakthroughs in R&D.

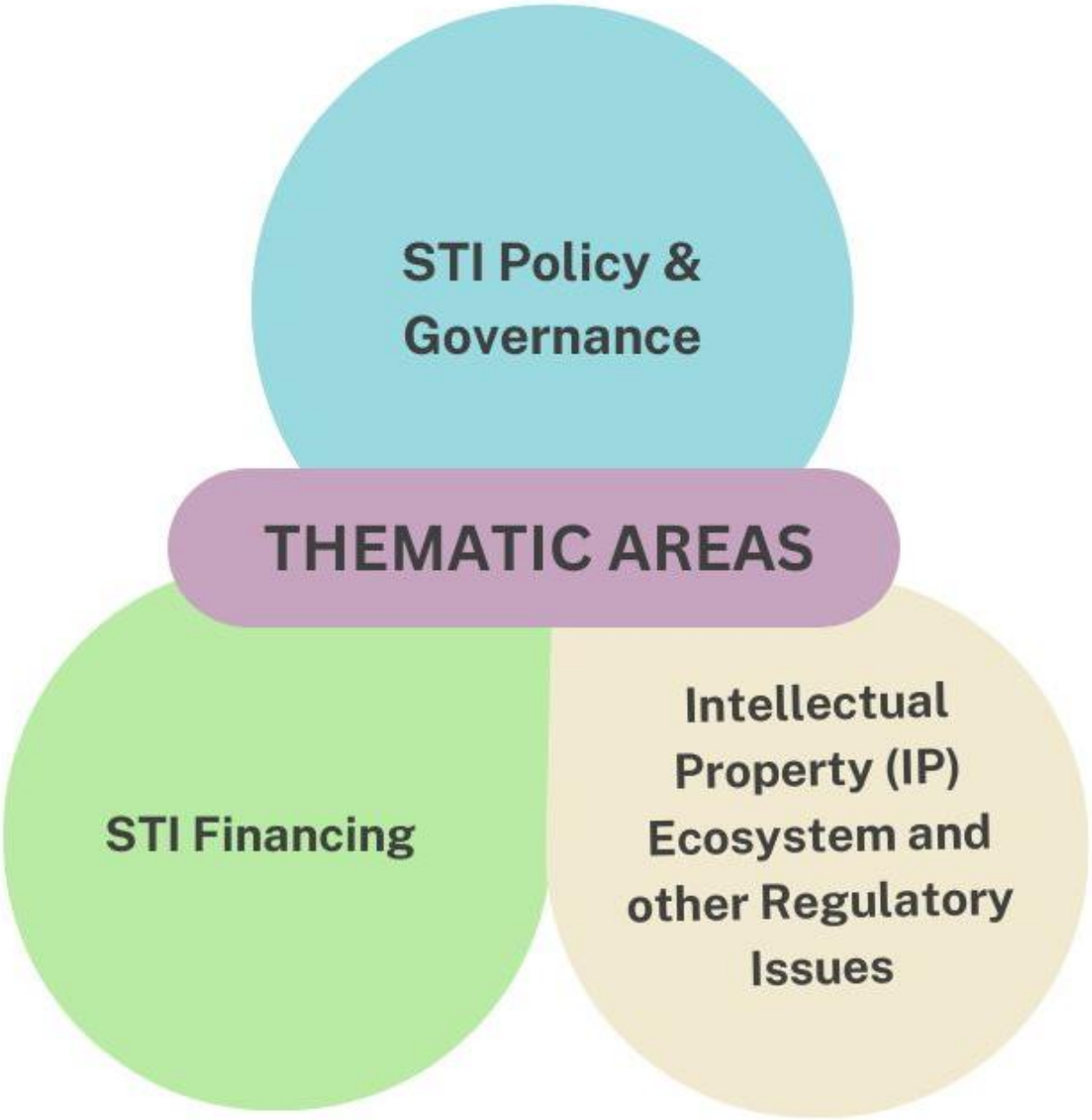
Through effective organization of several high-level meetings and seminars that have convened leading academic and industry specialists, developing policy recommendations that have been instrumental in shaping national R&D strategies, and establishing a strong network of partnerships with diverse stakeholders, such as universities, research institutions, and private sector companies, DST-CPR, PU has recorded commendable achievements over the years. It is a key institution that will play a critical role in shaping India's future STI policies. The Centre is making tremendous strides in promoting innovation and creating a stronger, more vibrant R&D ecosystem in the country through its dedicated

research, collaboration, and evidence-driven policy suggestions. Through the improvement of its research capabilities and expansion of its area of investigation into new STI fields, DST-CPR, PU is climbing to new heights. By providing legislators timely and relevant recommendations and promoting even greater collaboration between public and private organizations to foster innovation and economic development, it will reinforce its role as a policy advisory body. The Centre is slowly evolving into a "Regional Nodal Centre" for facilitation and assistance of science, technology, and innovation policy to Northern Indian States and Union Territories. To promote socio-economic development through S&T interventions at a faster pace, DST-CPR, PU has evolved its objective to encompass Science, Technology, and Innovation (STI) policy research from the academic year 2022–2023.

Apart from offering capacity-building programs on Intellectual Property (IP), Public-Private Partnerships (PPPs), and Industry-Academia Collaboration with expertise on STI areas in relation to I-A collaborations, IPRs, Technology Transfer, Disaster Risk Management, and SDGs, respectively, DST-CPR, PU is progressing on formulating science and technology policies for PAN India. To build a cooperative platform for discussing and creating powerful policies at the national level, the center is engaging, enabling discussions, sharing knowledge, and exploring new ways and best practices for enhancing the impact of science and technology on society. PU and DST-CPR are on a detailed journey to address the challenges of the technologically advanced areas.

By mobilizing resources, energizing creativity, and translating research into effective solutions, such tailored solutions may be provided to optimize the potential of the respective field for STI-driven R&D. The center undertook an exhaustive study in 2024–2025 that was issued as a white paper entitled "Public Private Partnerships in R&D led STI Ecosystem." The white paper was presented to the Department of Science and Technology (DST), Government of India, after revisions and updations to stress the necessity for mechanisms that have specially catered to the special needs of PPPs in engaging the R&D ecosystem. Key concerns such as inadequate patent filings and processing lags are identified in the presented Patent Landscape. Strategic steps have been proposed in response, including revising institutional ranking systems, establishing a patent trust mechanism to enable intellectual transfer and commercialization, and improving patent databases. In addition, DST, GoI has been presented a detailed proposal for establishing an Indian Patent Trust System (IPTS). Secondly, this year there was an attempt to analyze how CSR can spur corporate sector participation in research and innovation. Going forward, the DST-CPR aims to enhance its research capabilities and provide relevant recommendations to foster innovation and economic growth.

2. RESEARCH


STI Policy & Governance
THEMATIC AREAS
STI Financing
Intellectual Property (IP) Ecosystem and other Regulatory Issues

2.1. Theme 1: STI Policy & Governance

DST-CPR, PU is anticipated to conduct evidence-based research to map the STI ecosystem and strengthen the system interconnectedness for STI by bringing the Public and Private sectors to address the issues of collaborative R&D and Technology Transfer. In Session 2023-2024, the Centre has conducted activities to encourage the Private sector's involvement in R&D by identifying best practices of technology-intensive areas where the Private sector is contributing to the Public sector' R&D. The Centre has conducted studies for adopting successful PPPs practices in AI domain where private sector-led successful R&D has taken place. DST-CPR, PU has backed to replicate such practices in other technology-intensive domains. DST-CPR, PU looks forward to a framework to enhance Private Sector Participation in Public Sector led R&D systems.

In addition, the Centre has taken up the issues relating to the gap existing between the accelerating Sustainable Development Goals (SDGs) and Private sector contribution to STI ecosystem. To ensure long-term sustainability and to cultivate a culture of innovation, DST-CPR, PU has backed the creation of a curriculum, implementation of mentorship programs, and provision of internships to enhance abilities through its studies that include fostering partnerships for industry-aligned education, establishing advisory boards for ESD under PPPs. Centre has addressed the gap between the traditional education being imparted and the skilled education required by industry through a study that provides inferences about industry-focused courses that should be run at HEIs level.

2.1.1. Industry-Academia Interactions for R&D

Activity 1. Best Practices for I-A Collaborations: A Key to Success for Economic Growth by Identifying Significant Facilitators at the International Level:

Industry-academic partnership encourages innovation, ensures the alignment of academic research and industry needs, fills the gaps in skills, and promotes economic growth. The **Figure. 1.** illustrates the core role played by the Industry and Academia to develop convergent growth and innovation. The ideal environment promotes the core achievements of knowledge exchange, experience exchange, and technology exchange.

These processes allow the academy to acquire experiences from the day-to-day problems and the industries to get access to the most recent research, resulting in an increasingly dynamic and responsive socio-economic environment. Along this line, the prime goal of this activity is to study and emulate international enablers to make the Industry - Academia Collaborations more robust.

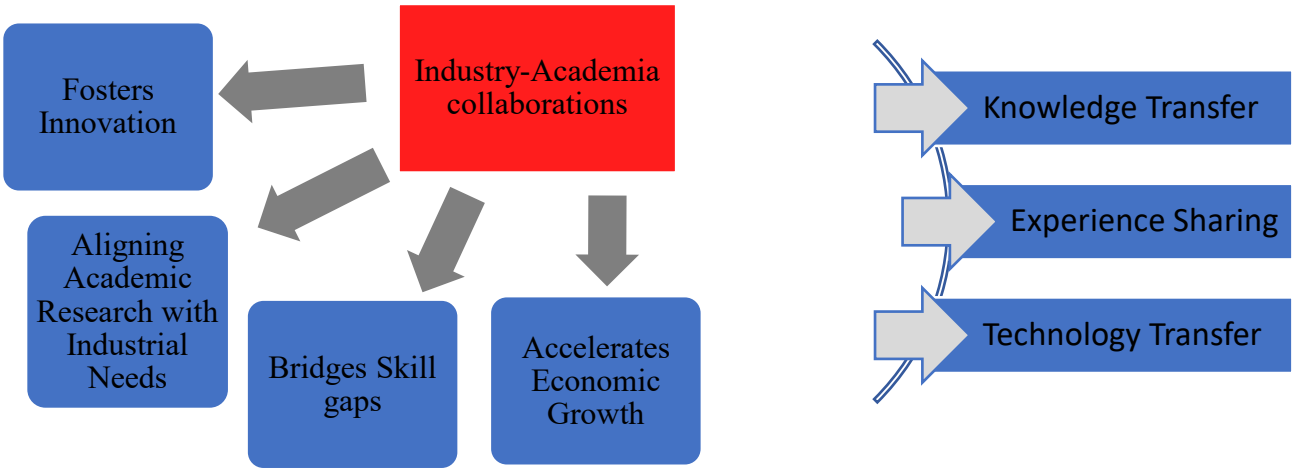


Figure. 1. Major benefits and Outcomes of Industry-Academia Collaborations

The information shown in **Table 1** is adapted from comparative examination across leading international Industry–University partnership models in innovation-driven countries. Secondary data from policy reports, journal publications, and institutional studies were compared to chart key facilitators present in each model. These were cross-mapped to the existing Indian HEI landscape to suggest doable avenues for adaptation.

Table 1: International Models of Industry–Academia Collaboration: Insights and Recommendations for Indian HEIs.

S. No.	Country & Model	Key Facilitators / Features	Current Status in Indian HEIs	Way Forward
1.	**Germany** *Fraunhofer Industry–Academia Model*	Establishment of Industry-Institute Cells (IICs) for collaborative R&D	Industry Relations and Collaboration cells (IRC Cells)	Identify and institutionalize IICs in selected HEIs across India

			Recommended for Indian institutions	
2.	**United Kingdom** *University Spin-off Model*	Development of University Research Spin-offs and technology commercialization	Some initiatives exist in premier institutes (e.g., IITs, IISc)	Promote and expand university spin-off culture across Indian HEIs through enabling policy frameworks
3.	**France** *Sector-Specific Clustered Research Model*	Formation of Clustered Multidisciplinary Research Areas aligned with industry sectors	Emerging models in select research parks and incubators	Identify sector-specific innovation clusters and foster collaborative networks in HEIs
4.	**South Korea** *Curriculum-Integrated & Incentivized R&D Model*	Private Sector Investment in academic R&D and Curriculum-Aligned Skill Programs (e.g., Engineering House System)	Limited adoption in Indian technical universities	Design and implement skill-integrated academic programs with industry incentives in HEIs
5.	**Israel** *Specialized Program-Based Model*	Programs like Cyber Elite 2.0 led by JCT-LIVE, offering domain-specific, industry-driven courses	Sporadic implementation of sectoral programs	Develop and institutionalize sector-specific, industry-certified courses within Indian HEIs

The examination of international Industry–Academia partnership models indicate variable yet successful methodologies that have effectively driven innovation, skill acquisition, and economic growth. Although there are components of these models available in Indian HEIs, there is scope for systematic and strategic implementation. To close this divide, India needs to give serious consideration to industry-institute cells, university spin-offs, sectoral research clusters, curriculum alignment to industry requirements, and domain-focused programs. Implementation of these international best practices in the Indian context can greatly enhance the innovation ecosystem of the nation and make higher education more relevant and effective.

Activity 2: Bridging the Outcome-Impact Gap: A Framework for Strengthening Industry Academia Collaborations through Global Best Practices and Growth-Driving Factors.

Global IA partnership models have successfully catalyzed innovation, skill acquisition, and economic growth through systematic strategies such as university spin-offs, research sectoral clusters, and curriculum aligned with industries.

However, despite the presence of such initiatives and access to global best practices, several institutional, cultural, and systemic barriers continue to hinder effective implementation of IA linkages in India and other Low and Middle-Income Countries (LMICs), including:

- Academic research in India mainly depends on public funds because industry investment levels remain low. Technology-driven industries conduct minimal early-stage research funding because they perceive both high risks and unclear economic returns.
- Several Indian universities along with research institutes do not maintain technology transfer offices (TTOs) or innovation hubs or liaison cells as intermediary institutions for industrial collaboration.
- The poor exchange of talent between academia and industry causes both groups to maintain different expectations and creates communication problems as well as misunderstandings between them.
- Difficulties with intellectual property management at academic institutions cause industry partners to hesitate from partnering in joint research projects.

To understand in-depth the challenges/barriers in establishing success IA collaborations, questionnaire-based study survey of Indian Higher Education Institutions (HEIs) is being carried by DST-CPR. The preliminary responses received so far reflected key deterrents including a lack of industries' cooperation, incompatible priorities, inadequate incentives for industry-led research effort, IPR issues, and a lack of institutional focus on industrial interface. Ongoing responses in the survey are further expected to identify particular systemic weaknesses impeding effective IA involvement. Majority of the gaps can be connected through science diplomacy to some extent by promoting international and institutional cooperation.

The Role of Science Diplomacy and Global Alignment with addition of IA partnerships to both bilateral as well as multilateral science diplomacy strategies allows India to:

- Leverage international funding and expertise through joint research programs and mobility schemes.
- The nation should expand global innovation opportunities by forming partnerships between Indian research centers and foreign universities as well as industries and governmental agencies.
- A strategy to develop future technology prediction skills requires active scanning of upcoming trends and time-based policy formation.
- Through participation India can both access and contribute to worldwide common goods including climate technology systems and pandemic prevention systems as well as AI governance frameworks.
- Attracting continuous government backing and sustained institutional backing for IA programs occurs when Indian IA initiatives become integral components of the national science diplomacy strategy.

To overcome these interlinked challenges and unlock the full potential of India's knowledge ecosystem, strategic integration of science diplomacy can play a transformative role. By aligning with global science diplomacy practices, India can strengthen its IA ecosystem.

Table 2 Best National and Global Science Diplomacy Programs Promoting Industry–Academia Collaborations

S. No.	National and International Programs	
1.	**AAAS-TWAS Science Diplomacy**	Courses provide training to young scientists and policymakers from developing countries for inter-institutional boundary collaboration skills and policy capacity development. The approach of this institution regarding diplomacy along with ethics and innovation serves as an effective model for Indian scientific policy collaboration.

2.	**S4D4C and InsSciDE (EU Programs)**	The programs under Horizon 2020 use science diplomacy as a component of foreign policy to facilitate joint efforts between academic institutions and industrial entities as well as public authorities. They generate collaborative knowledge creations while handling multinational issues including global warming and health threats through operations that adapt to national purposeful frameworks.
3.	**Warsaw Science Diplomacy School** and **São Paulo School of Advanced Sciences**	Represent local academic programs which deliver relevant innovation diplomacy education by bridging innovation and technology transfer needs of the Global South. The event shows that fundamental regional undertakings link up with worldwide strategic goals.
4.	**Cooperative polyetiological programs**	Underline crucial values of trust and mutual respect which provide foundation for successful implementation of IA frameworks.
5.	**SciTech Diplo Hub together with INGSA Networks**	operate as platforms that enable multiple nations to work together for science-based partnerships. The success of these networks proves that science-based international relationships help organizations maintain long-term academic and industrial partnerships.

Table. 2. presents notable science diplomacy initiatives operating across the globe providing useful frameworks, training, and models of cooperation to address gaps of IA connectivity. These initiatives show how international and regional diplomatic science engagements can develop mutual understanding, establish trust levels, and advance innovation-led collaborations among academia and industry. Therefore, it may be concluded that the science diplomacy programs are useful in establishing the effective IA collaborations in various countries. On the same lines, additional to the above-mentioned programmes, various Indian agencies are also running science diplomacy programs to promote IA linkages. Therefore, it may be concluded that.

Conclusions

1. **Persistent Outcome-Impact Gap**: Indian Higher Education Institutions (HEIs) continue to be plagued by a constant "outcome-impact gap" wherein the academic output fails to convert into industry or society benefit due to the misalignment with industry needs.
2. **Barriers to Effective Collaboration**: The main challenges to Industry-Academia (IA) collaboration are insufficient industry funding, lack of institutional intermediaries such as TTOs, insufficient exchange of talents, and unresolved IPR issues.
3. **Role of Science Diplomacy**: International science diplomacy initiatives, such as AAAS-TWAS, S4D4C, and SciTech Diplo Hub, have demonstrated success in fostering IA collaboration through structured engagement, capacity building, and trust development.
4. **Potential for Global Integration**: Brought in line with global science diplomacy, Indian IA strategies can be used to advance innovation capabilities, facilitate international funding opportunities, and develop collaborate solutions for global challenges like climate change and public health.

Recommendations

1. **Fostering Talent Mobility**: Promote exchange schemes, joint fellowships, and sabbaticals to enable cross-industry learning and close communication gaps between the academy and industry.
2. **Promote Industry Investment in Research**: Develop better targeted incentive structures (e.g., tax benefits, co-funding mechanisms) to encourage greater industry participation in early-stage academic research.
3. **Mainstream Science Diplomacy in IA Strategy**: Incorporate IA cooperation frameworks into India's overall science diplomacy agenda in order to capitalize on global cooperation, gain international expertise and align with multilateral innovation objectives.

4. **Leverage Global Best Practices**: Introduce global models with demonstrated success (e.g., S4D4C, InsSciDE) to the Indian ecosystem by piloting them in strategic research organizations and scaling up according to performance results.
5. **Policy Alignment and Long-Term Visioning**: Promote foresighted scanning of global policy trends and emerging technologies to shape IA-related plans and strategies in a globally competitive and future-oriented manner.

2.1.2 Public Private Partnerships for STI

Activity 1: Legislative framework for undertaking PPP for research and innovation in India.

The study aims to recommend a legislative framework by proposing indicators that drive the private sector involvement in R&D. It thereby brings forward the actionable insights to decentralization, inclusivity, and evidence-based policy making to recommend a mechanism that supports an ecosystem of co-creation between the public and private sectors. Taking the best practices of landscape study forward, conducted in FY 23-24 of PPPs led initiatives for strengthening R&D at the national and international level, an assessment and evaluation of PPP models was out. Indicators identification and their relative weightage for a tentative framework for PPPs led R&D was then carried out. It was found that innovation, cost management, risk management, utilization, reliability and effectiveness as well as life cycle management are the main drivers of a PPP led R&D.

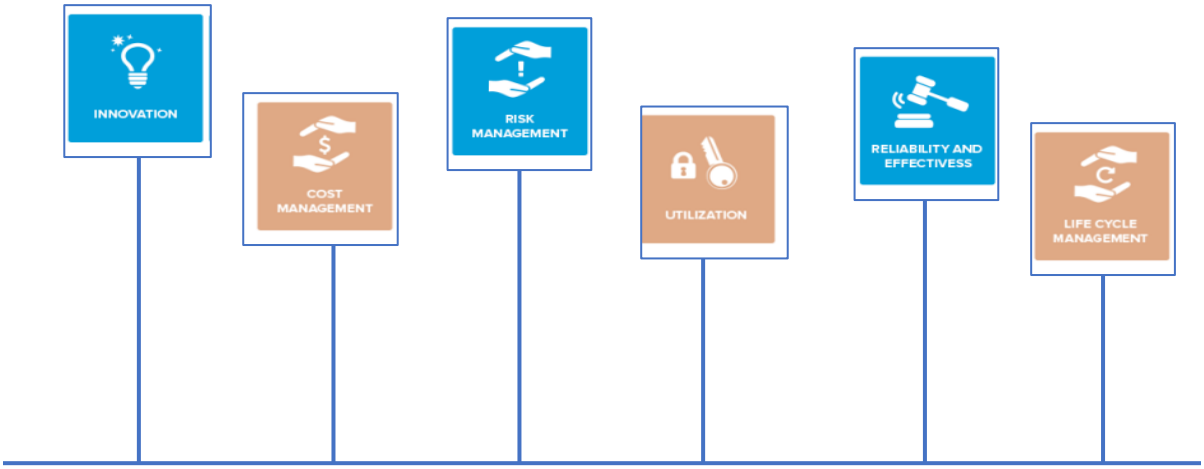


Figure. 2. Drivers of a PPPs led R&D

The drivers are then further categorized into 32 Key Performance Indicators (KPIs) (Table X) for effective and long-term PPPs for R&D, catering to research priorities, a Allocation of responsibilities at both ends, including finance sharing, S=strategies for commercialization, and impact assessment. Weightage of each driver was calculated to assess the effectiveness of the sub-indicators comprising each driver.

Table. 3. Identified indicators and their relative weightage

Indicator	Sub-Indicators	Weightage	Dependence
Innovation	• Novel technologies developed • R&D investment in innovative projects • Time to market for new solutions	43%	• Creative Output • Leveraging Private-Sector Expertise • Public-Sector Support as a Foundation • Driving R&D Breakthroughs
Cost Management	• Budget adherence rate • Cost per R&D output • Cost savings from shared resource • Return on investment (ROI)	49%	• Optimizing Resource Use • Performance-Based Incentives • Sharing Risks and Rewards
Risk Management	• Risk identification accuracy • Number of mitigated risks • Risk impact reduction percentage • Contingency plan effectiveness	51%	• Shared Risk Allocation • Joint Decision-Making • Resource Pooling • Information Sharing • Contractual Agreements
Utilization	• Resource utilization rate • Infrastructure usage efficiency • Adoption rate of R&D outputs	32%	• Resource Allocation Efficiency • Collaboration Intensity • Knowledge Sharing Mechanisms

	• Stakeholder engagement level		• Infrastructure Accessibility • Project Management Practices
Reliability and Effectiveness	• Rate of project completion within the stipulated time and budget. • Ratio of meeting technical and regulatory standards • Rate of quality discussion with stakeholders. • Validation and meeting standards.	23%	• Success rate of R&D projects • Reliability of deliverables • Effectiveness in meeting stakeholder needs • Quality of outputs
Life Cycle Management	• Average delay in achieving milestones. • Ratio of expenditure to the total cost of the project. • Rate of alignment with SDGs • Impact assessment from third party.	27%	• Project completion within timeline • Life cycle cost analysis • Sustainability metrics • Post-project evaluation success

Inferences:

- Risk and cost management are the leading drivers (51% and 49 %) followed by innovation (43%), while reliability and effectiveness need to be caught upon.
- Shared risk allocation, joint decision-making, resource pooling, information sharing, and contractual agreements are identified as leading parameters carrying maximum weightage for the driver risk management.
- Success rate of R&D projects, reliability of deliverables, and effectiveness in meeting stakeholder needs, quality of outputs that need to be taken care of for reliability and effectiveness.

Recommendations:

- Complementary contributions, fertile ground for breakthroughs, clear contractual agreements are needed to foster innovation under PPPs.
- Ongoing monitoring, unequal risk burden, and resource imbalances are the mechanisms that need revival.
- Communication breakdown hinders stakeholder engagement during the life cycle of the project, which needs continuous motivational efforts for the success of PPPs led R&D.

Activity 2: Private sectors' interventions in Disaster Risk Management

The private sector can extend its cooperation to the government and public sector to reduce people's vulnerability to various disasters. Corporate Social Responsibility (CSR) is one of the prominent ways in which the private sector can contribute to DRM. In India, private sector-led bodies like the Confederation of Indian Industry (CII) and the Federation of Indian Chambers of Commerce and Industry (FICCI) are prominently contributing to DRM through CSR towards capacity-building programs. Private firms of varied sizes, such as Mahindra, Reliance, and TATA, make varying financial and non-financial contributions toward relief operations and resilience at the individual level. However, a contribution to disaster preparedness in India by collective private bodies and industry associations has the upper edge because they push for improving the scalability and efficiency of innovative solutions and ease of community use of advanced technological tools.

The present study highlights the prominent programs of these private bodies, such as Alliance for Disaster Resilient Societies (ARISE), India that promote the private sector's contribution to disaster risk management. Based on the best practices of these programs, the recommendations are drawn that stress a strong partnership (PPPs) between different stakeholders (public and private) to improve the accountability and feasibility of disaster preparedness. CII, FICCI, and PHD Chambers of Commerce were considered for their high penetration in DRM by the private sector collectively. To map the 4 C's, i.e., coordination, consultation, co-investing, and collaboration, a multi-faceted approach was adopted that involves looking for the indicators such as,

- Governance Structure
- Functions
- Research contribution

Inferences:

- The industrial and corporate organizations-led platforms, such as CII, FICCI, and PHDCCI, have been presented that are at the forefront of their social responsibility through CSR at the various levels of disaster response and recovery. A need to promote such programs is felt, which can immensely contribute to the government-led programs such as the Coalition for Disaster Resilient Infrastructure (CDRI) (2022), a global initiative in which India is one of the members.
- The private sector, which has a direct relationship with consumers, customers, and suppliers, can steer the public demand towards risk-sensitive products and services by contributing to CSR.

2.2. Theme 2: Identify areas of policy gaps for stimulation of private sector investment in R&D and suggest changes in the policy environment.

India's ambitious goal of taking Gross Expenditure on Research and Development (GERD) to 2% of its Gross Domestic Product (GDP) requires innovative financing strategies and increased private sector participation. One of them being contemplated is the convergence of CSR and R&D financing. Therefore, the activity carried out for the year 2024-25 was on assessing the potential of CSR in fostering private sector engagement in research and innovation. With the Government of India now officially acknowledging CSR contributions to R&D, this research examines the extent to which industries are making use of CSR for scientific development. The research findings are meant to guide policy reforms and urge the strategic deployment of CSR in enhancing India's STI landscape.

Activity 1. Role of CSR for attracting the private sector for R&D.

The primary goal of the above activity is to examine the use of CSR to draw the private sector towards R&D. The Government has sanctioned the use of CSR for R&D. The extent to which industry is performing R&D through CSR should be reviewed, but above all, mass administered among the industries. The research, therefore, examines the nexus between STI financing and corporate responsibility with the emphasis on the contribution of industry involvement in R&D and CSR, hence advancing private sector financing of R&D as a gateway to attaining the national ambition of rising to 2% of GERD as a share of GDP. In order to comprehend the same, information was obtained from publicly available reports such as the Director's report and Business Responsibility and Sustainability Reports (BRSR) of the year 2023-24. BRSR report is a regulatory framework issued by the Securities and Exchange Board of India (SEBI) for the first 1000 listed companies with market capitalization,

listing reporting on environmental, social, and governance (ESG) criteria in detail, marking an institutional drive towards ethical and sustainable business practices. Information on regional and sector-wise CSR-related R&D, industry practices and contribution of CSR in R&D investment strategies in India was gathered. To date, about 609 industries have been analyzed.

The data shows that among the total industries studied, 86.7% (528 companies) fall under mandatory CSR obligations, while the rest of 13.3% (81 companies) are not bound legally by CSR rules (Figure. 3a). Moreover, even after the legal compulsion, only 48.3% (294 companies) have established such committees, and 51.7% (315 companies) lack a CSR committee (Figure. 3b). The Companies Act 2013 makes it mandatory for companies that are under CSR duty to have a CSR committee. In the data, however, it appears only 294 companies possess CSR committees, reflecting a critical shortfall, as CSR committees are needed for planning, implementation, and reporting CSR activities effectively, reflecting a clear non-compliance. The above findings reflect an urgent regulatory enforcement and company awareness of CSR compliance. Additionally, with CSR being more viewed as a means of financing R&D, particularly under government-sanctioned schemes, having effective CSR governance becomes central to driving India's STI and GERD goals.

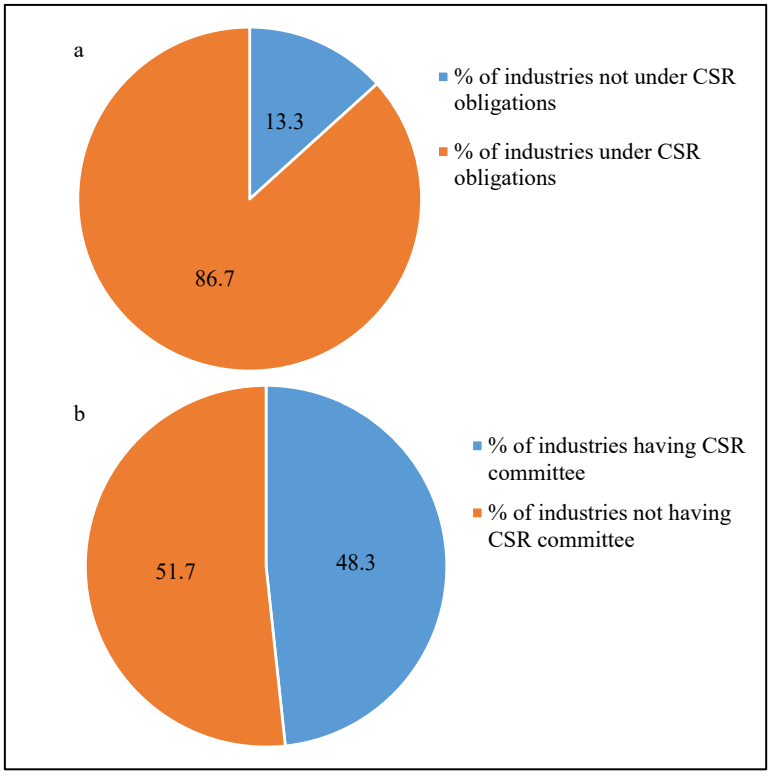


Figure. 3. a) Percentage of industries under CSR obligation and Figure b) Percentage of industries having CSR committee.

Similarly, the state-wise examination of data indicates that Maharashtra tops with the maximum number of industries (~190), a significant portion of which (nearly all) are CSR obligated and possess CSR committees, indicating high industrial presence and comparatively good CSR compliance.

The statistics presented in Figure. 4. point towards major trends in business social responsibility (CSR) involvement in Indian states and industries. A pie graph reveals that 61.7% of industries participate in CSR contributions, with a substantial 38.3% remaining non-participants, indicating huge untapped capability

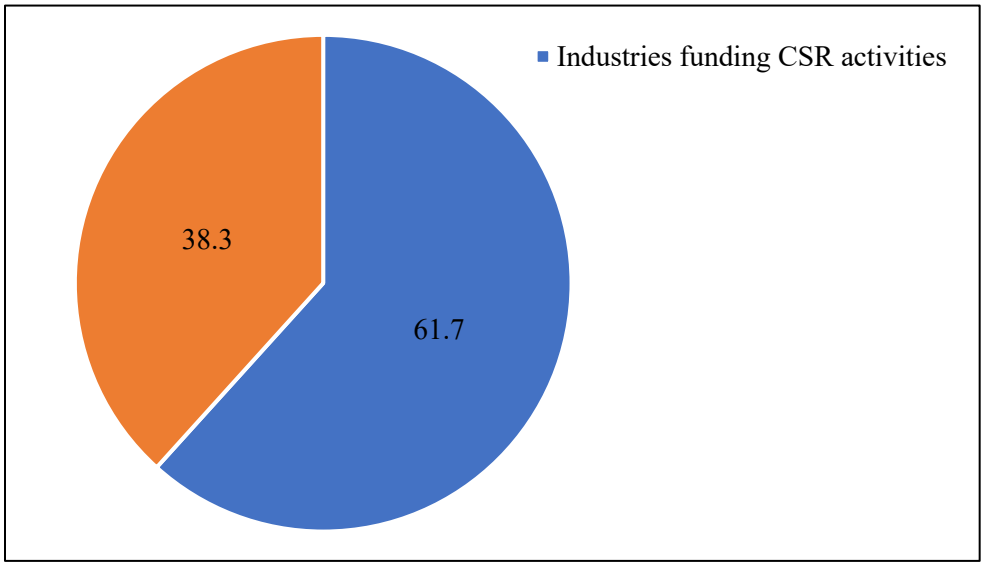


Figure. 4. Percentage of Industries Funding CSR activities

The thematic-wise scrutiny of the most prominent CSR issues carried out by the companies in the study conducted under the Companies Act, 2013 indicates that the maximum amount of CSR activity, i.e., 39.9%, is aimed at promoting education in the form of special education, vocational training, and livelihood for marginalized groups including children, women, elderly people, and differently abled persons. These are followed by healthcare-related activities, which account for 25.5%, to eliminate hunger, poverty, and malnutrition and to facilitate preventive healthcare and sanitation, including Swachh Bharat Kosh contributions.

Figure. 5. depicts the levels of corporate engagement in partnership with government on CSR projects in India's aspirational districts, which are the 115 districts the government has identified as underdeveloped and in need of focused assistance. Figure 6 shows that of the 115 aspirational districts, only 27.9% of the companies are engaging with government on CSR in the aspirational districts, and that 72.1% of companies have no current plans to engage with government on CSR in the aspirational districts.

What the important findings suggest is the absence of corporate engagements that support government initiatives in areas of acute developmental need in the aspirational districts despite government and corporate collaborations for endogenous development in those areas.

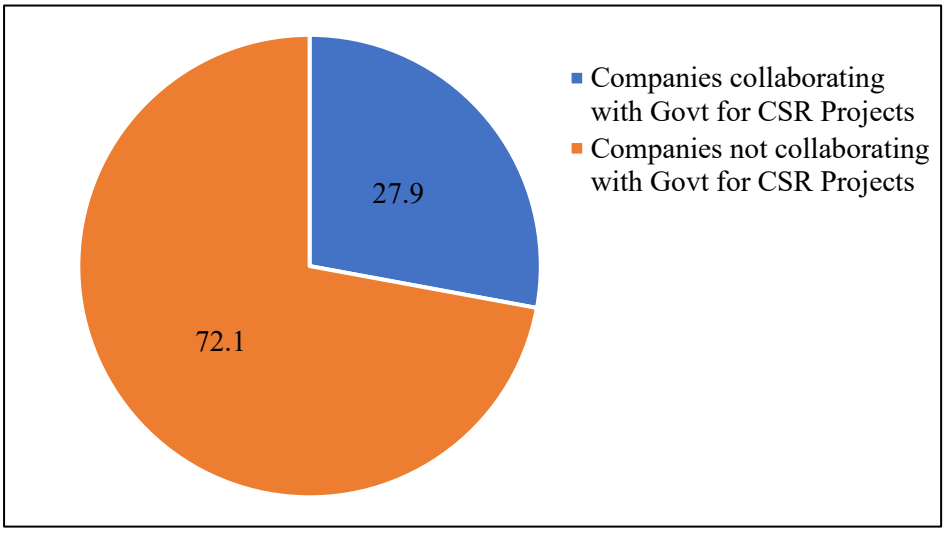


Figure. 5. Percentage of industries showing corporate collaboration with the government on Corporate Social Responsibility (CSR) projects in India's aspirational districts

Figure. 6. shows the major trends in CSR with a particular emphasis on education and R&D. Only 27.9% of industry is investing in R&D according to the figure, which reveals a significant gap in valuing innovation for long-term benefit, presumably because of low awareness, insufficient incentive, or the lower profile of R&D in terms of immediate outcomes.

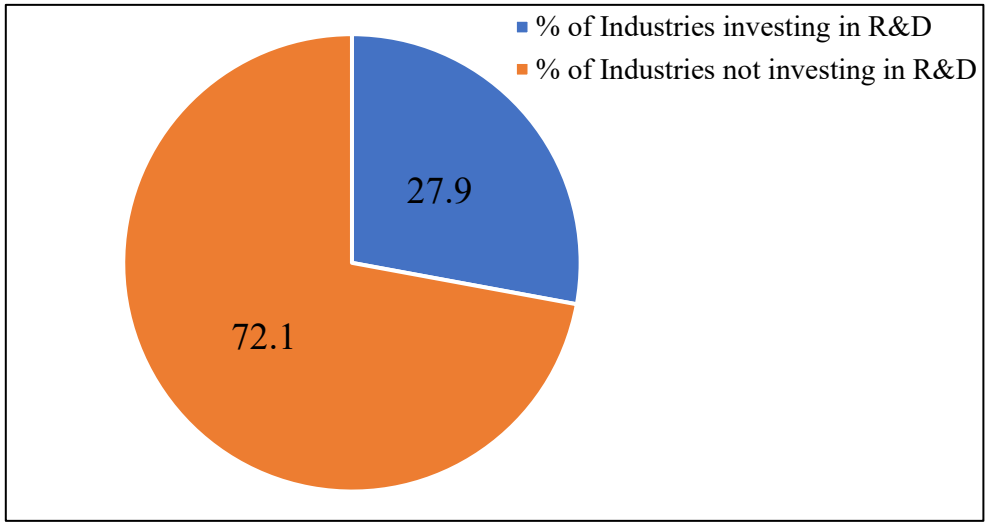


Figure. 6. Percentage of industries investing in research & development (R&D)

Geographically, Maharashtra, Gujarat, and New Delhi lead in absolute R&D investments, while states like Uttar Pradesh and Telangana show a proportionally better performance (Figure 7). The national average, hence remains low, highlighting untapped potential. Further, the analysis of IP registration in a firm shows that IP registration is very rare, with only 2.3% of firms registered IPs, showing weak innovation output and low incentive to protect IP (Figure. 7).

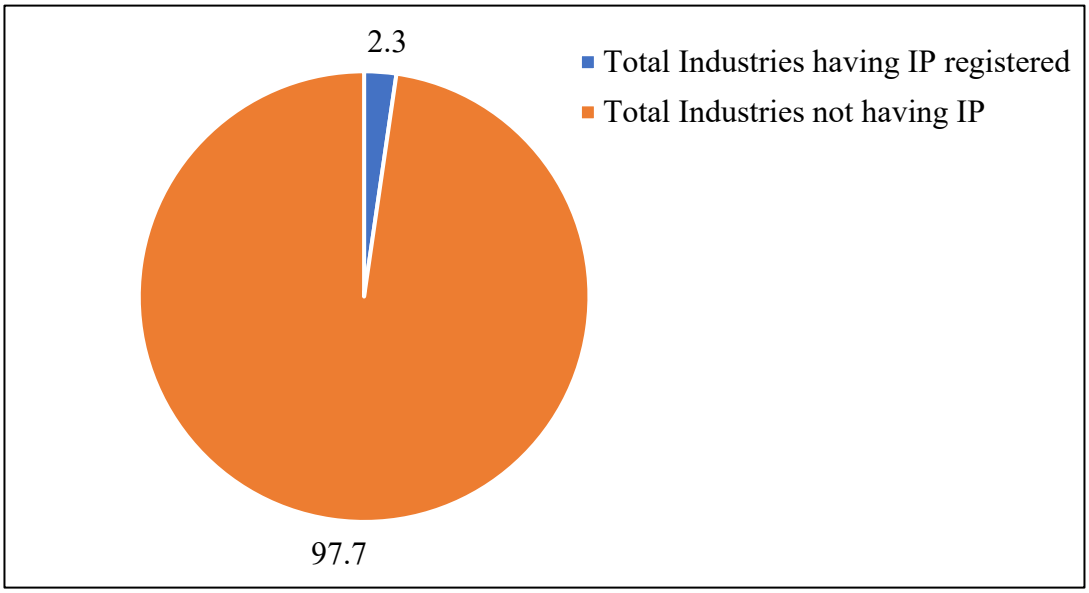


Figure. 7. Percentage of industries having Intellectual Property (IP) registration

Summary:

India is making earnest efforts to improve the STI financing ecosystem, especially through leveraging CSR as a funding mechanism for strengthening the R&D capacity. The analysis examined the role of CSR in strengthening R&D and key findings of the analysis are:

1. CSR can work as Enablers, it can be a strategic means for industry led R&D.
2. There is a clear cut and lack in CSR Compliance by the industries. Of the 609 companies in the study, 86.7% have required CSR, yet only 48.3% of companies have CSR committees; this also indicates poor compliance.
3. In the state wise analysis, Geographical Disparities are evident in CSR Participation. The fact that Maharashtra has shown strong CSR Participation.
4. CSR Funding trends show the untapped opportunity of CSR as only 61.7% of industries are funding CSR activities showing regional disparities.

Overall, while traditional CSR areas like education receive ample attention, future-oriented investments in innovation and basic research remain under-prioritized, indicating that CSR is not yet being used strategically to enhance long-term competitiveness and productivity. Therefore, a few possible suggestions for enhancing CSR funding in R&D are:

- The CSR reporting should be monitored strictly and penalised for non-compliance. Also, the reporting format should be followed strictly by vetting from a suitable authority.
- The R&D investment may be made a core funding and not an optional one under the eligible CSR activity under Schedule VII.
- Tax incentives may be provided for CSR funds directed towards research institutions, incubators, and start-ups working on national missions, making them financially attractive.
- Link CSR to GERD Targets (2% of GDP), and it may be counted as a contributing factor towards this target.
- Improve Regional CSR Participation by launching awareness and capacity-building programs in states with low CSR activity. Also, CSR efforts in aspirational districts may be incentivised through recognition schemes and co-financing by the government.
- Highlight industries actively contributing to GERD through CSR in national innovation indices.
- Integrate IP education into corporate training and CSR outreach.

- Mandate R&D Reporting under CSR Disclosures and amend CSR reporting formats to require clear disclosure of any funds allocated to R&D, incubators, innovation programs, or IP generation. The BRSR metrics may be refined to capture detailed data on STI and CSR linkages.

2.3. Theme 3: Conducting the research on evidence-based approaches for identifying and promoting areas for generation of intellectual properties and technology transfer.

Academic and research institutions play a crucial role as hubs of IP creation. India ranks 3rd after China and U.S.A in terms of scientific publications, while in terms of IPRs India hovers at 62nd position. This indicates that there exist lacunas in the innovation ecosystem due to which the Indian research community is unable to fully translate its research into technology/product.

The Centre has recognized the need to strengthen the R&D in academic and research institutions to harness their full potential. Keeping this in mind, the Centre undertook a study to comprehensively overview the patent landscape in the academic and research institutions of India and provide suggestions based on the insights gathered from the analysis to improve the innovation landscape in these institutions.

Activity 1. Comprehensive studies to enhance Translational Research Ecosystem (TRE), technology commercialization and triple helix collaborations in India.

The study was conducted to get a comprehensive overview of the innovative capacity through the patent landscape analysis across academic and research institutions of India. In this line, the following methodology was adopted: The raw patent data (filed/granted/expired/lapsed/pending) of all the academic as well as research labs was procured from the "Questel Orbit" database during March 2024 for 23 years period beginning from 2000 to the December 2023. Search for patent data comprised of keyword or International Patent Classification (IPC) or combination of both. Based on the data gathered, analysis was performed and categorized as "Annual Patenting Trend", "State-wise Patenting activity", "Legal status of the patents filed", "field of invention-wise analysis", "IPC-based categorization" and "Institutional patent activity".

The study was planned with the following objectives in mind:

- Mapping the patent landscape of academic and research institutions for the time period under study.
- Identification of the top states involved in patenting activity as well as the patent profile of other states and union territories from India.
- Investigation of the top institutions in patenting activity in India as well as the profile of other institutions from rest of India.
- Major Fields of invention as focus areas for these academic and research institutions.

Analysis

❖ Patent landscape across North, East, West, and South of India

The analysis of the patent filing and grant trend among academic and research organizations in Northern, Eastern, Western, and Southern India revealed that Northern institutions were the leaders in patent filing (30,114) followed by South (22,247), West (7,985) and East (3,625) for the total time span of the study, i.e. 23 years (Figure. 8). The study also showed that the maximum number of patents were granted to Northern institutions (5,888) followed by South (3,986), West (1,842) and East (819). The trend of patent filing and grant pointed out to the fact that Northern and Southern institutions were actively involved in securing their innovations through patents.

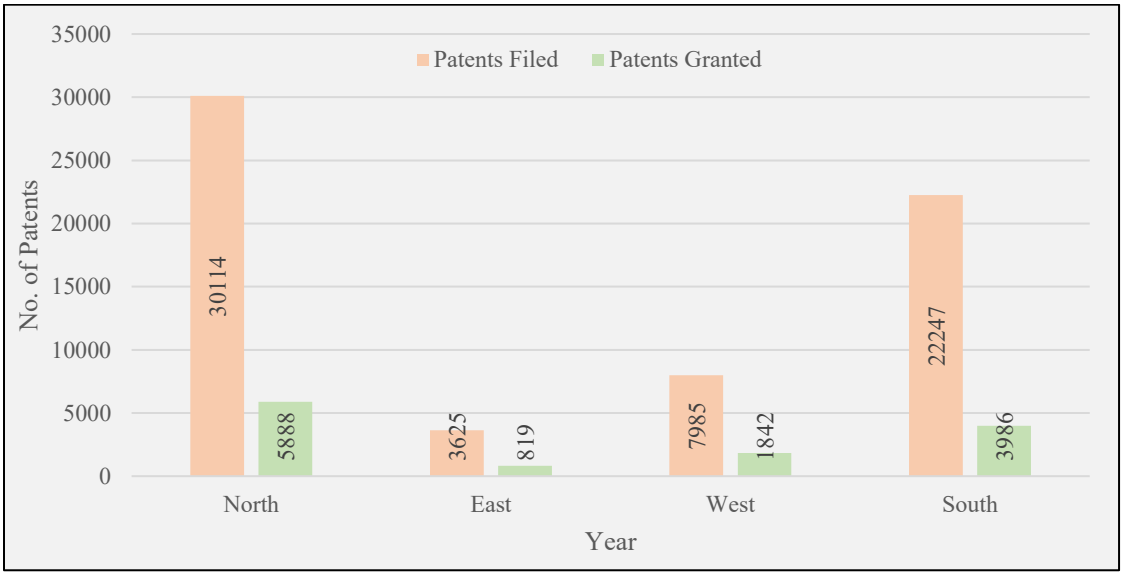


Figure. 8. The illustration depicts patents filed and granted by the academic and research institutions in Northern, Eastern, Western, and Southern regions of India for 23 years

❖ State-wise patent landscape

On further analysis of the patent data, it was established that the academic and research institutions filing highest number of patents were from Tamil Nadu, New Delhi, Punjab, Uttar Pradesh, and Karnataka, whereas institutions filing very low number of patents belonged to Andaman and Nicobar, Tripura, Manipur, and Puducherry filed merely one, seven, eleven, thirteen patent respectively (Figure. 9a). Another important observation was that there were few states and union territories which displayed very good patent granting trend. Among these, academic and research institutions from New Delhi were at the top, followed by Tamil Nadu, Maharashtra, Karnataka, and Uttar Pradesh (Figure. 9b).

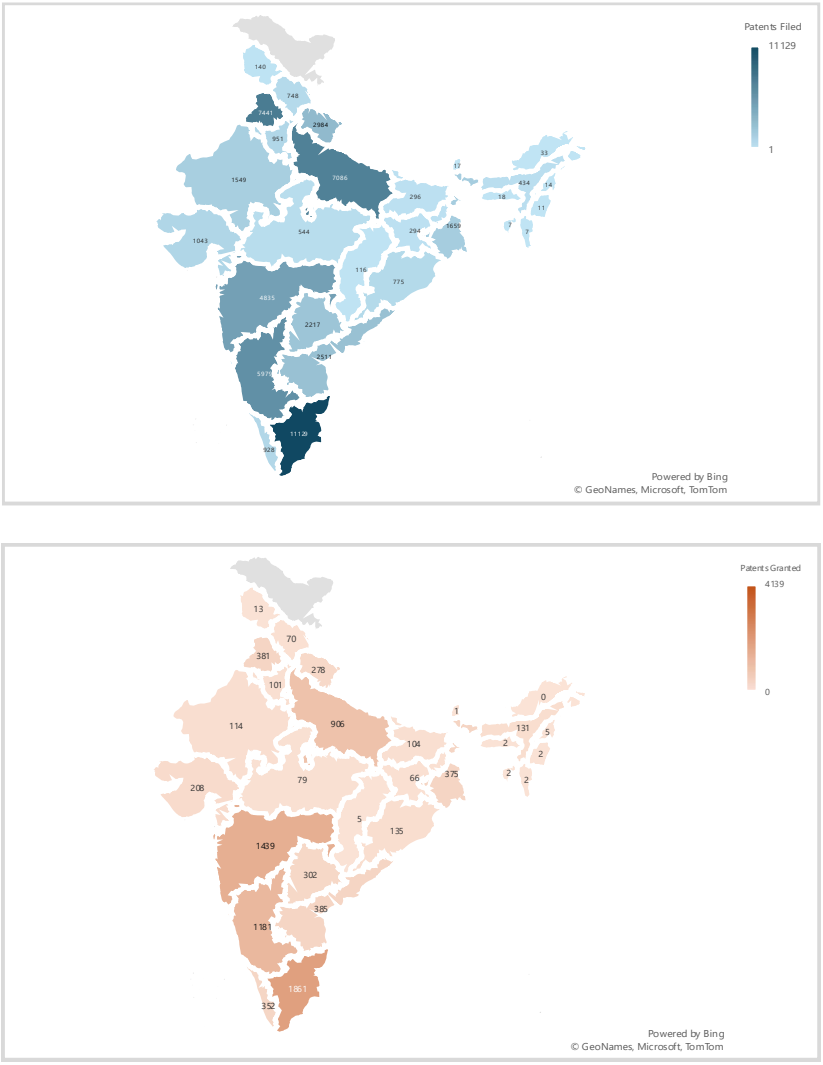


Figure. 9. Distribution of patent filing and patent granting trend in academic and research institutions spread across the states and union territories of India. (A) Patents Filed. (B) Patents Granted.

❖ Top academic and research institutions involved in patent filing and patent grant

Further, the top 10 Indian institutions in patent filing were also identified. Among these, Council of Scientific & Industrial Research (CSIR), Lovely Professional University (LPU), Chandigarh University (CU) and Chitkara University occupied the top 4 positions (Figure. 10). Additionally, the landscape study showed that CSIR, Defence Research and Development Organization (DRDO), Indian Institute of Technology (IIT) (Madras) (IITM) and IIT, Bombay (IITB) received the highest number of grants. In contrast, the number of patents granted to private institutions was negligible.

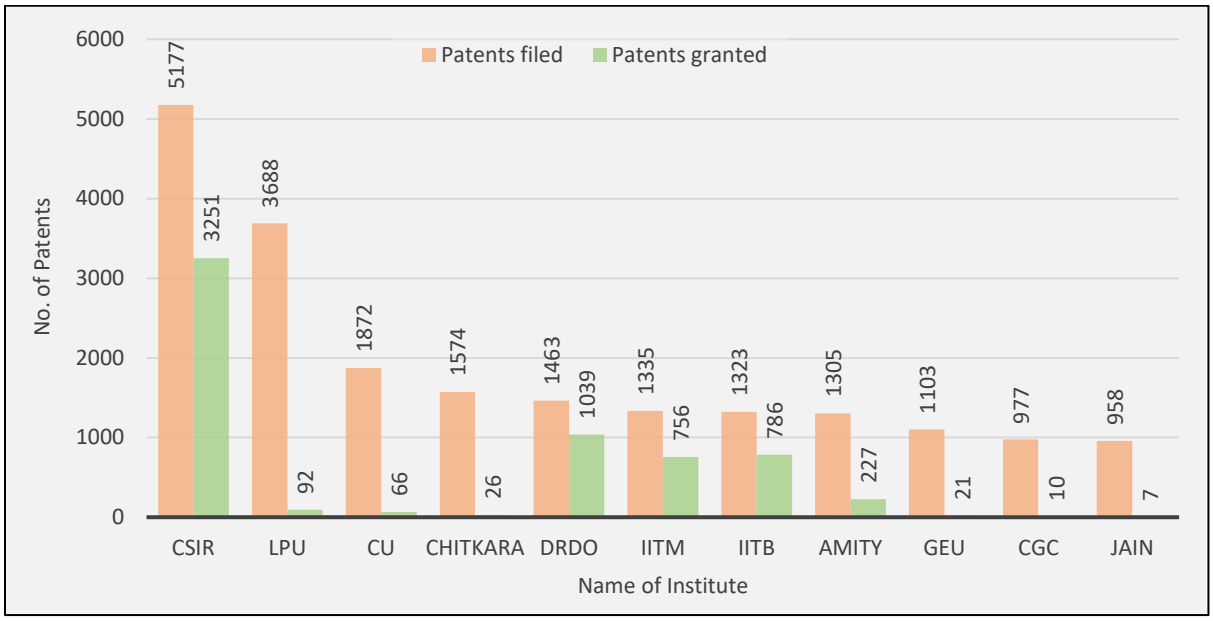


Figure 10. Illustration depicts the patent filing and granting trend from the Indian academic and research institutions for a tenure of 23 years (2000–2023)

❖ Top field of invention in patent filing and grant

Patent landscape analysis depicted that the top fields of invention for patent filing for these 23 years include Mechanical engineering, followed by Computer technology, and Biotechnology/Medical technology, whereas highest number of patents were granted in Mechanical engineering followed by Chemistry and Biotechnology/Medical technology (Figure. 11). Detailed examination of annual patent trend in various sectors revealed that an increase of nearly 6-8 times was witnessed in majorly the following sectors including Mechanical engineering, Measurement & Control, Environmental technology, Computer technology, Communication, and Biotechnology/Medical technology. The major

growth in patent filing was observed in the previous 4 years i.e. 2019-2023. Surprisingly, it was observed that there was a minimum gap of six to eight years in patent filing and patent grant in the patents filed before 2016-2017. For instance, if a patent was filed in 2011 or 2012, few of them were granted in 2017 or even later and few are still in the pending category. With the implementation of National IPR Policy, 2016 and further amendments in patent procedure at the Indian Patent Office (IPO), it was noticed that patents filed after 2016 were granted at a quicker rate with maximum grants witnessed between 2021 to 2023.

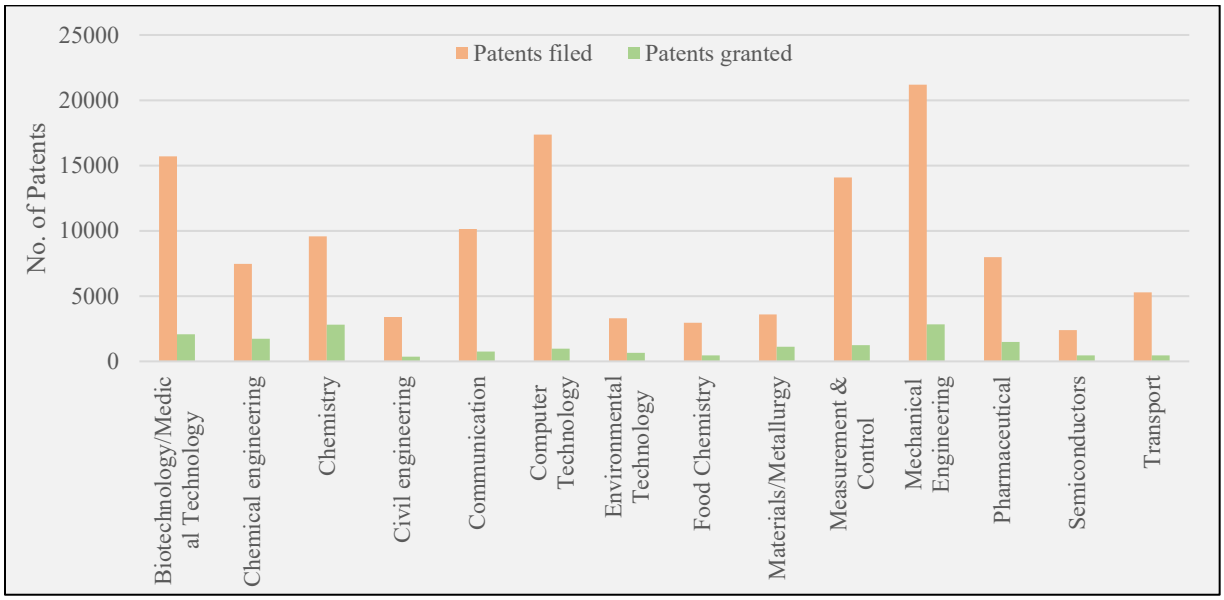


Figure. 11. Depiction of the total patents filed and granted across major fields of invention

Recommendations:

1. The patent search portal inPASS should be more comprehensive and updated to allow more exhaustive and efficient prior art search, with addition of more analytical tools to allow real-time analysis of the patent data, and ready-to-download file format to access the patent related data.
2. Formulation of state-level IP policies based on Strength, Weakness, Opportunities, and Threats (SWOT) analysis of the key stakeholders involved. The policy document should clearly include monitoring and evaluation framework, financing and implementation plan and the role and responsibilities of participating agencies.

3. Re-evaluation of the metrics used for ranking academic and research institutions for instance National Institutional Ranking Framework (NIRF) to include patent filing, granting, as well as commercialization.
4. Industry-focused research be given priority, which will not only generate good patent number, but also ensure their commercial viability and utility.
5. Industry chairs or involvement of industry in designing research projects and curricula for graduates and research at academic institutions similar to IITs and Indian Institute of Science (IISc) should be stressed.
6. Private universities and colleges often incentivize faculty members for patent generation through financial rewards, recognition, or career advancements. Government universities/research institutes can also adopt similar strategies to increase patent output. Moreover, promoting initiatives like the "One Patent per Faculty/scientist" campaign—can be made a mandatory target for science and technology streams which could significantly boost innovation in the institutions.
7. Integration of mandatory quality patent filing clause into government-funded R&D Schemes.
8. Inclusion of IP experts and industry representatives in research project assessment committees.

Activity II: Creation of an Indian Patent Trust System

A comprehensive analysis was undertaken to evaluate the impact of the National IPR Policy (2016) and the Patent Act of 1970, focusing on existing provisions, policy gaps, and their implications for patent management and commercialization in India. Global best practices from developed economies such as the USA, Japan, and South Korea were assessed to draw insights for designing an effective Patent Trust System (PTS). Various technology transfer models were analyzed to identify scalable and adaptable features suitable for the Indian context. Based on this groundwork, a structured framework for the PTS was designed, emphasizing patent pooling, licensing, revenue-sharing, and equitable accessibility.

A detailed proposal was developed, outlining the necessity, structure, and strategic benefits of a patent trust system tailored to India's innovation ecosystem. A roadmap for integrating the PTS within India's existing STI framework was also formulated. The proposal recommends the establishment of a national PTS, highlighting its potential economic benefits and its role in strengthening India's IP landscape. Key components include the creation of governance structures and operational guidelines to

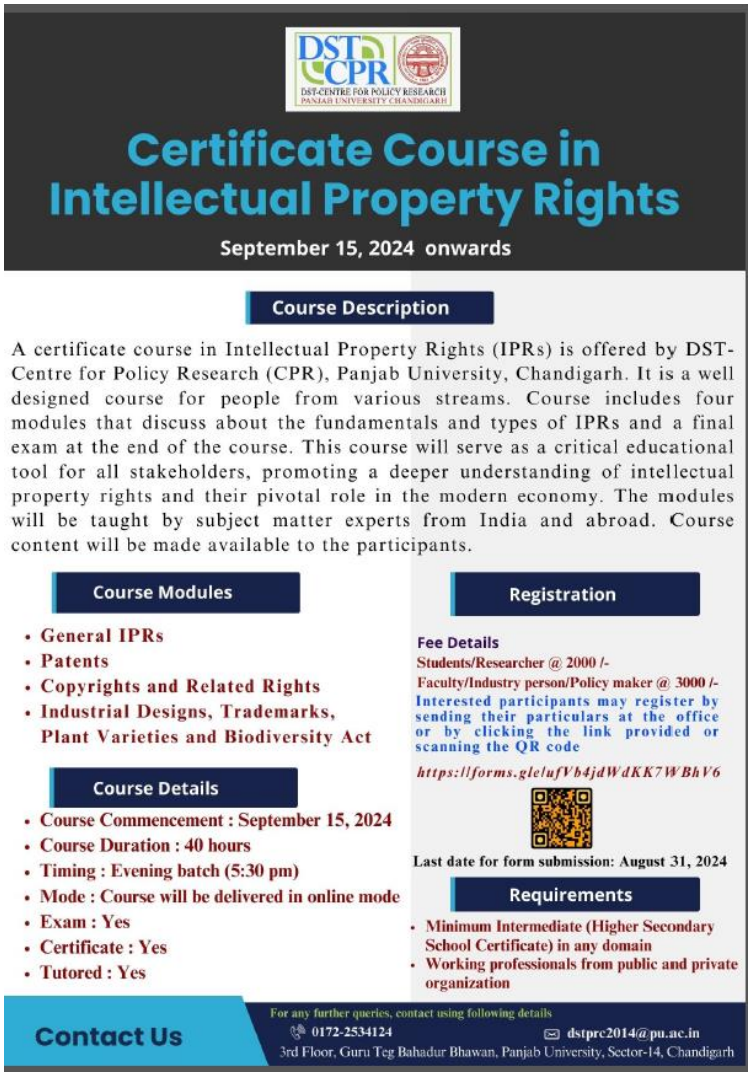
ensure fairness, transparency, and efficiency; an open-access patent repository to support effective commercialization; and the establishment of a "National Virtual Hall of Inventions" as a digital marketplace for IP trading, connecting innovators with investors and industries. The proposal also introduces standardized patent valuation metrics and financial models aimed at maximizing patent utilization through improved valuation, licensing, and revenue mechanisms.

3. CAPACITY BUILDING PROGRAMMES

3.1 Certificate Course (Completed)

Course 1: Two batches of Certificate course in Intellectual Property Rights (IPRs)

A certificate course in Intellectual Property Rights (IPRs) is offered by DST-Centre for Policy Research (CPR), Panjab University, Chandigarh. It is a well-designed course for people from various streams. The course includes four modules that discuss the fundamentals and types of IPRs and a final exam at the end of the course. The modules will be taught by subject matter experts from India and abroad. Course content will be made available to the participants. Two batches of the courses are completed till date.



Course Duration: 40 hours

Timing: Evening batch (5:30 pm) (Friday-Sunday)

Mode: Online mode

Exam: Yes

Certificate: Yes

Tutored: Yes

3.2. Workshop/symposium/conferences Organized

Event 1: Role of Intellectual Property Rights in Protecting Innovations in the Textile and Fashion Industry

Date: August 22, 2024.

A workshop titled "Role of Intellectual Property Rights in Protecting Innovations in the Textile and Fashion Industry" was organized on August 22, 2024 by the DST-Centre for Policy Research (CPR), PU, Chandigarh, in partnership with University Institute of Fashion Technology (UIFT), PU, National Institute of Fashion Technology (NIFT), Panchkula and Punjab State Council for Science and Technology (PSCST), Government of Punjab. The workshop featured an exhibition showcasing the innovative work of emerging startups in the textile and fashion industry, offering participants a chance to explore sustainable designs, advanced manufacturing, and IP-driven solutions.

Event 2: Patent Search, Filing, and Enforcement (Virtual)

Date: November 13, 2024.

DST-Centre for Policy Research Panjab University, Chandigarh in collaboration with the World Intellectual Property Organization – WIPO, Geneva organized an online Workshop on "Patent Search, Filing, and Enforcement" on November 13th, 2024.

The workshop gave insights into essential elements of IP protection strategies, and patent application filing, including the Patent Cooperation Treaty (PCT) and patent commercialization. The event brought forward the Technology and Innovation Support Centers' (TISCs) role in India. Ms. Christine Bonvallet, Director of the PCT International Cooperation Division, Patents and Technology Sector, WIPO, Geneva praised India's growth in accelerating innovation. Prof. Kashmir Singh, Coordinator, DST-CPR, PU highlighted the necessity to raise awareness about IPRs and motivate researchers to file good quality patents. Ms. Tomoko Miyamoto, Head of the Patent Law Section, Patent Law Division, WIPO highlighted patents as a necessity for technological progress. She stressed that incremental innovations are crucial for exploiting the use of patents fully and for that knowledge of patent infringement is necessary. Ms. Anjali Aeri, Counsellor, PCT International Cooperation Division, PCT Legal and International Affairs Department, WIPO gave detailed information about the Patent Cooperation Treaty (PCT). She stressed that licensing is the key to innovation commercialization. Ms. Margherita Marini, IP Commercialization Specialist, IP Commercialization Section, IP for Business Division, WIPO explained various strategies for doing commercialization of innovations. Ms. Giulia Ragonesi, Legal Officer, Building Respect for IP Division, Global Challenges and Partnerships Sector, WIPO highlighted the need of enforcement laws in harmonizing the IP ecosystem. Ms. Naana Efua K. Halm, Head, TISC Development Section, Technology and Innovation Support Division, Technology and Innovation Support Division, IP for Innovators Department (IPID), WIPO, shared key insights of WIPO Technology and Innovation Support Centers (TISCs) and highlighted the success stories of TISC in India such as one at Punjab State Council of Science and Technology (PSCST). Dr. Dr Dapinder Kaur Bakshi, heading the PSCT led WIPO TISC in Punjab shared the best practices of TISC in carrying out the promotion of IPRs in India. Mr. Taegeun Kim, Senior Program Officer, PCT International Cooperation Division, PCT Legal and International Affairs Department, WIPO explained different takeaways for Patent Search and Substantive Patent Examination. More than 200 participants comprising IP professionals, academicians, and researchers gained insights into key aspects of intellectual property management.

WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION

DST CPR DST-CENTRE FOR POLICY RESEARCH PANJAB UNIVERSITY CHANDIGARH

INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)

Workshop on

Patent Search, Filing, and Enforcement

jointly organized by

DST-Centre For Policy Research (CPR)
Panjab University, Chandigarh, India

and

World Intellectual Property Organization (WIPO), Geneva

The workshop will give insights into essential elements of IP protection strategies, patent applications filing, including the Patent Cooperation Treaty (PCT) and patent commercialization. It will also cover the role of Technology and Innovation Support Centers (TISCs) in India. Experienced IP professionals from WIPO and TISC will share knowledge on key aspects of intellectual property management.

Date: 13 November, 2024

Timing : 9:30 a.m. to 1:30 p.m. (CET)
1.00 p.m. to 5:00 p.m. (IST)

Join Zoom Meeting

https://us06web.zoom.us/j/87657867402?pwd=7IszuXf9Jo2Bxwywt2kXEC1sxfzfiN.1

For certificate, interested participants may register by clicking on the link below or scan the QR code

https://forms.gle/TC2deFCUxzTb9pTa6

FOR MORE INFORMATION

0172-2534124 **dstprc2014@pu.ac.in** **https://cpr.puchd.ac.in/**

Event 3: 17th CHASCON (Chandigarh Science Congress), Panjab University, Chandigarh

Date: November 6-8, 2024

DST-Centre for Policy Research's representation at 17th CHASCON (Chandigarh Science Congress), Panjab University, Chandigarh.

An annual event of Panjab University taking place from November 6-8, 2024 to strengthen the Science, Technology, and Innovation (STI) ecosystem of Panjab University. This event provides a platform for young minds to innovate novel and sustainable solutions to cope with societal problems and showcase their technologies to the world. This year's theme is empowering "Indigenous Technologies for Viksit Bharat". The mandates of DST-Centre for Policy Research Panjab University, Chandigarh include prominent domains such as Intellectual Property Ecosystem and regulatory issues, Technology Transfer, Industry-Academia Linkages and Public-Private Partnerships, and capacity building of the researchers and innovators in all these domains. At CHASCON, DST-Centre for Policy Research Panjab University, Chandigarh showcased their research areas and courses offered to facilitate the innovators in protecting their innovations through different types of IPs. The Innovators and researchers showed tremendous interest in the research and courses offered by DST-Centre for Policy Research Panjab University, Chandigarh, and collaborating within these domains for future endeavors.

Event 4: Interactive Dialogue on India's Intellectual Property Ecosystem

Date: December 20, 2024.

DST-Centre for Policy Research Panjab University, Chandigarh organized a brainstorming session titled "Interactive Dialogue on India's Intellectual Property Ecosystem" on Friday, 20 December, 2024.

The event brought forward an insightful dialogue among IP leaders, policymakers, academicians, and legal experts to exchange ideas and strategies for enhancing India's Intellectual Property Rights (IPR) framework.

The inaugural session was graced by eminent dignitaries to enlighten the participants on the need of innovation and IP and its impact on economic development of a nation. Prof. Yojana Rawat, Director, Research and Development Cell, Panjab University, Chandigarh graced the event and shared her views on Intellectual Property Rights (IPRs) and its need in today's era. Dr. Pushpendra Rai, IAS (Retd.), Fmr. Director, WIPO was the chief guest for the event. Dr. Rai highlighted the significance of IP in economic growth and mentioned the importance of IP assets and strategic partnership which act as the major drivers for the growth of any nation's economy. Dr Dapinder Kaur Bakshi, Joint Director, PSCST, Chandigarh stressed on producing good quality patents that should help the society and proposed the encouragement for GI tag to support local innovations. The event hosted renowned experts from all over India to share their experiences. Mr. Vikrant Rana, Managing Partner, S. S. Rana, and Company, New Delhi delivered a talk where he highlighted the current scenario of IP in India. He shared case studies of IITs and MIT who have good track record of patent filing, granting, and commercialization as a result of good Industry-Academia linkages. Mr. Parminder Singh Sethi , Innovation Mentor, India, delivered a talk where he listed the Barriers to innovation which includes fear of failure, rigid mindset and lack of resources and shared the Strategies to become a problem solver including solution-oriented mindset, embracing design thinking, building a diverse team, leveraging tools and technologies and iterating and learning.

The event witnessed diverse participation list inclusive of Faculty, Early Career Researchers, Patent Analyst, Pharmacologist, Project Consultants, Researchers, and Students, registered from several reputed colleges, universities and companies from Chandigarh, Himachal, Haryana, Punjab, Hyderabad, Bengaluru, and Odisha. The event concluded with elaborate discussions on the IP ecosystem in India's academic and research institutions.

The current state of the IP ecosystem along with gaps and challenges hindering the effectiveness of the system were addressed. The recommendations were drawn from the discussions for improving the IP framework for innovation and collaboration in the academic and research sectors.

Event 5: International Conference on Fostering Industry-Academia Linkage for Effective Technology Transfer

Date: January 31, 2025

DST-Centre for Policy Research Panjab University, Chandigarh, organized an insightful conference titled "International Conference on Fostering Industry-Academia Linkage for Effective Technology Transfer" on Friday, 31 January 2025, at Panjab University, Chandigarh.

The event kick-started with the release of report compiled by scientific team at DST-CPR entitled, "A Comprehensive Analysis of India's Innovation Ecosystem by Mapping Patent Landscape of Higher Educational Institutions and Research Organizations", followed by exchange of MoU between DST-CPR (PU) and KIIT-TBI TTO to contribute to the enhancement of academic research relationships. Prof. Kashmir Singh, Coordinator, DST-CPR, Panjab University, delivered the welcome address, emphasizing the role of higher educational institutions (HEIs) in shaping India's innovation landscape.

Prof. Renu Vig, Hon'ble Vice Chancellor, Panjab University, delivered the inaugural address, stressing the pivotal role of academic institutions in bridging the gap between research and commercialization. She highlighted the need for the industry to be brought on board from the very beginning to channel innovative ideas and research projects effectively. Key addresses were delivered by: Dr. Arvind C. Ranade, Director, National Innovation Foundation, Ahmedabad, highlighted India's vibrant innovation ecosystem, noting the country's status as the 4th largest economy and the 3rd ranked startup ecosystem globally. He emphasized the need for academia to understand industry requirements and integrate frugal innovations. Dr. Jatinder Kaur Arora, Former Executive Director, PSCST, Govt. of Punjab, Chandigarh, proposed the introduction of orientation courses to educate on raising Technology Readiness Levels (TRLs). Dr Bijay Kumar Sahu, Regional Manager and Head, NRDC, Vishakhapatnam, underscored the necessity of bringing relevant stakeholders together to create value and enhance technology transfer. Ms. Bharti Sood, Regional Director, PHD Chamber of Commerce and Industry, Chandigarh, who advocated for the establishment of R&D cells and dedicated startup policies at the state level to foster impactful engagement.

The session concluded with a Keynote Lecture by Dr. DJ Nag, President of Innovaito LLC, Ohio, and Adjunct Faculty at Rutgers University, USA. He elaborated on various modalities of technology transfer, such as licensing, startups, and patent monetization, providing valuable global insights. The event featured thought-provoking talks by distinguished experts.

Dr. Abhijit (Jit) Banerjee, Associate Vice President, Research, Innovation, and Entrepreneurship, University of Connecticut, USA, delivered a talk where he highlighted the academia's role in providing resources to startups and driving societal progress through innovation. Dr. Jay Kesan, Patent Attorney and Technologist, USA, provided insights into intellectual property management and strategies for maximizing technology commercialization.

First panel discussion was to deliberate on the topic "Challenges in Industry-Academia Collaboration within Higher Education Institutions (HEIs)". The Panel was chaired by Dr. Arvind C. Ranade, Director, National Innovation Foundation, Ahmedabad and moderated by Dr. Ravneet Kaur, PS-III, DST-CPR, Panjab University, Chandigarh. Experts for the panel were: Dr. Jatinder Kaur Arora, Dr Bijay Kumar Sahu, Ms. Bharti Sood, Dr. Satyendra Singh, Dr. Avinash Chandra Joshi, Mr. Rahul Nayar. The second panel discussion focused on the topic "Key Insights for Implementing the UGC Guidelines for Strengthening Industry-Academia Linkages for Promoting Technology Transfer from HEIs." It was chaired by Dr Dr. Sukhjinder Singh Thind, RTTP and moderated by Dr. Aditi Chauhan, DST-STI Policy Fellow, IISc, Bangalore. The panel consisted of distinguished experts including Dr Amaresh P., Dr. Preeti Khetarpal, Mr. Navdeep Shridhar, Ms. Ritika Singh and Dr Manish Vyas.

Department of Science & Technology
Government of India

DST CPR
DST-CENTRE FOR POLICY RESEARCH
PANJAB UNIVERSITY CHANDIGARH

INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

International Conference

on

"Strengthening Industry-Academia Linkages for Effective Technology Transfer"

Panjab University, Chandigarh | **31st January, 2025**

About the Conference

The aim of the conference is to deliberate upon improving collaborations between Industry-Academia for effective innovation ecosystem and robust technology transfer. This event will provide a platform to discuss opportunities associated to maximize the impact of such collaborations in driving economic growth and societal progress. Particularly, this conference will benefit students, researchers, faculty, industry professionals, start-ups, and policy makers.

Patrons

Prof. Renu Vig
Hon'ble Vice Chancellor
Panjab University

Sh. Sunil Kumar, IFS
Add. Secretary and Head
PCPM, Div., DST, GoI

International Experts

Dr. Dipanjan Nag
President, Innovaito, LLC, Ohio and Professor of Practice Rutgers University, USA

Dr. Abhijit Banerjee
Associate Vice President Research, Innovation & Entrepreneurship, University of Connecticut, USA

Dr. Jay Kesan
Patent Attorney Technologist USA

Session Topics

- Challenges in I-A collaborations within Higher Educational Institutions (HEIs) and insights for proficient technology transfer
- Key insights for implementing UGC guidelines for strengthening I-A linkages for promoting technology transfer from HEIs
- Global best practices and advanced models for strengthening I-A linkages boosting innovation and economic development

Registration

Students/Researcher @ 100 /- INR
Faculty/Industry person/Policy maker/Start ups @ 200 /- INR
Interested participants may register by clicking the link provided or scanning the QR code
https://docs.google.com/forms/d/e/1FAIpQLSd_BqSGJmtFyXBC-GdITp2eWjNVgvPGnj6LoTL9q7yG26V9UA/viewform?usp=dialog

Contact us: 0172-2534124
E-mail- dstprc2014@pu.ac.in

Follow Us

Event 6: Understanding and Achieving Net Zero Emission by Reducing Carbon Footprint

Date: February 18, 2025.

DST-Centre for Policy Research (CPR), Panjab University, in collaboration with the Department of Biotechnology, Panjab University, and Punjab State Council For Science And Technology, organized a workshop on "Understanding and Achieving Net Zero Emission by Reducing Carbon Footprint" on February 18, 2025. The event aimed to raise awareness and suggest strategies for Achieving Net Zero Emissions for climate resilience.

Prof. Desh Deepak Singh, Chairperson, Department of Biotechnology, Panjab University, Chandigarh welcomed the dignitaries. Prof. Kashmir Singh introduced the event and highlighted the initiatives of the centre for accelerating sustainable development. He stressed that it is our collective responsibility to contribute towards climate adaptation initiatives. Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and gave the participants insights to reduce carbon emissions and innovate by looking for alternative solutions. Chief guest Sh. Tapish Chandra Nautiyal, IFS emphasized sustainability and called for responsible actions to ensure a better future. He highlighted that R&D should be focused on the development of novel non-plastic materials and understanding the carbon sequestering mechanisms of potent agents like algae. He also encouraged Panjab University to accelerate its efforts to lead in the renewable energy sector. Er. PRITPAL SINGH, Executive Director, Punjab State Council For Science And Technology and Dr. Kulbir Bath, Joint Director, Punjab State Council For Science And Technology were the guests of honor for the event. Er. PRITPAL SINGH, stressed urban climate challenges and emission reduction strategies. Dr. Vivek Trivedi, Social Development Officer, MC, Chandigarh, was the keynote speaker for the event and advocated for youth-driven climate action. Er. Maganbir Singh, Principal Scientific Officer, Punjab State Council For Science And Technology and Dr. Har Amrit Singh Sandhu , Asst. Prof., Department of Civil Engineering, Punjab Engineering College, Chandigarh delivered expert lectures on various practices that can strengthen the approaches to cater to climate resilience. Dr. Girish Sapra (Ph.D.), Founder & CEO: Green Brigade Private Limited, gave an enthralling learning experience through an interactive session to explore the crucial role each stakeholder plays in the transition to a sustainable future. The event witnessed the engagement of more than 100 participants from different regions.

Ministry of Environment, Forest & Climate Change

Workshop

on

"Understanding and Achieving Net Zero Emission by Reducing Carbon Footprint"

Under

Environment Education Programme

18th February, 2025

State Nodal Agency

Punjab State Council for Science and Technology

Organized by

DST-Centre for Policy Research (CPR)

in collaboration with

Department of Biotechnology, Panjab University, Chandigarh

Supported by

Ministry of Environment, Forest and Climate Change, GoI

About the Workshop

The workshop is designed to raise awareness about the concept of net zero emissions and provide guidance and suggest strategies important for achieving the targets. The participants will gain knowledge about net zero emission, tools, and resources to minimize emission. The workshop aims to equip the participants to make meaningful actions in their respective fields and communities. Through interactive sessions, expert insights, and Hands on training, we will explore the critical role each stakeholder plays in the transition to a net zero world.

Target Audience

Students, researchers and young professionals' public representatives, policymakers, professionals from industry and academics

Registration Details

Participants may register by using the link/scanner

https://forms.gle/ARMGyoL5awc6mEZd7

Last date to register 12th February, 2025

Registration is Free of Cost

Venue

Seminar Hall, Department of Biotechnology
Panjab University, Chandigarh

Contact us

0172-2534124 dstprc2014@pu.ac.in

https://cpr.puchd.ac.in/

3.3. Upcoming Courses:

Course 1: Certificate course in Public-Private Partnerships in Science, Technology, and Innovation

Course Objective It aims to provide participants with a comprehensive understanding of Public-Private Partnerships (PPPs) within the context of science, technology, and innovation. It covers the principles, models, and practical considerations of PPPs in fostering research, development, and innovation.

Course Duration: 40 hours

Timing: Evening batch (5:30 pm) (Friday-Sunday)

Mode: Online mode

Exam: Yes

Certificate: Yes

Tutored: Yes

Course 2: Certificate course in Intellectual Property Rights (IPRs)

A certificate course in Intellectual Property Rights (IPRs) is offered by DST-Centre for Policy Research (CPR), Panjab University, Chandigarh. It is a well-designed course for people from various streams. The course includes four modules that discuss the fundamentals and types of IPRs and a final exam at the end of the course. The modules will be taught by subject matter experts from India and abroad. Course content will be made available to the participants. Two batches of the courses are completed till date.

Course Duration: 40 hours

Timing: Evening batch (5:30 pm) (Friday-Sunday)

Mode: Online mode

Exam: Yes

Certificate: Yes

Tutored: Yes

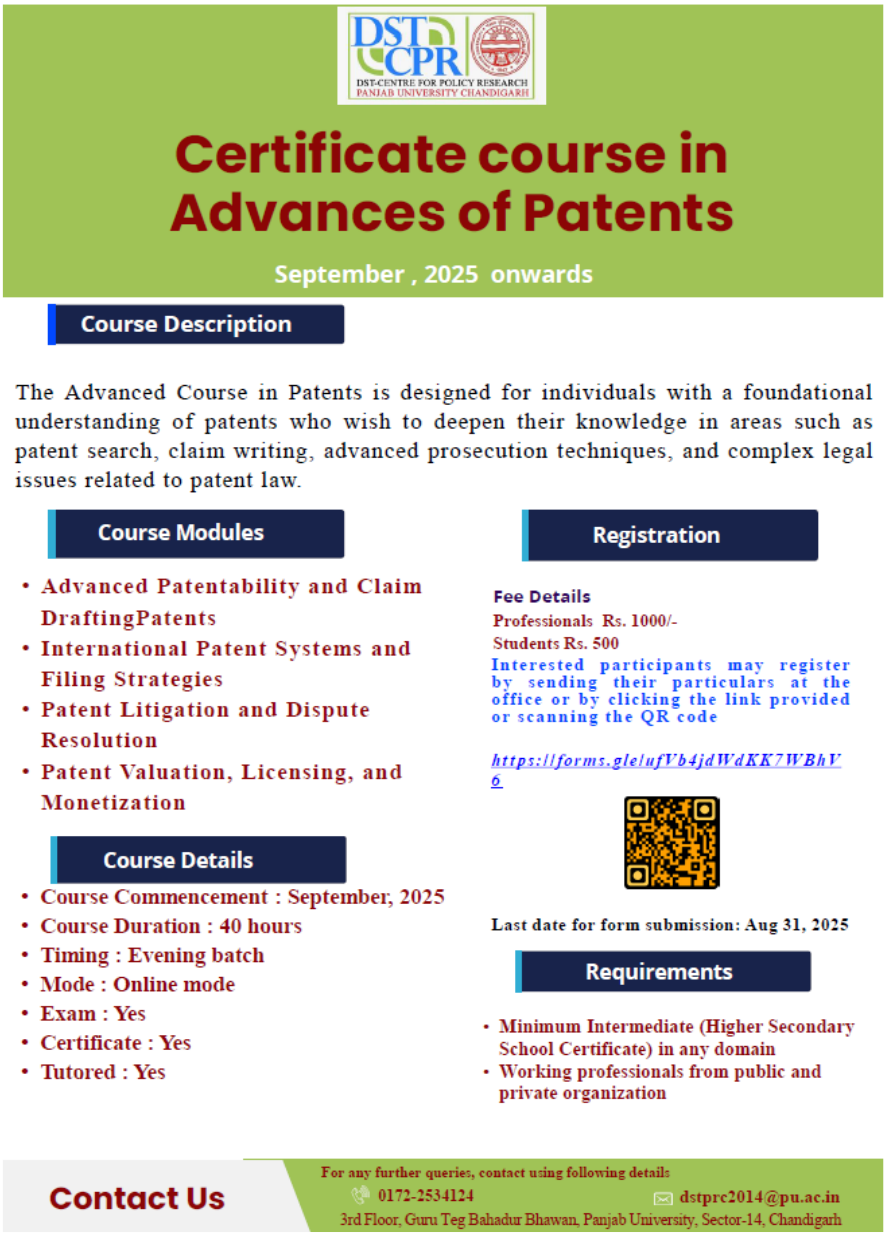
Course 3: Certificate course in Advances in Patents

The Certificate Course in Patents provides a fundamental understanding of the principles, concepts, and procedures related to patents. This course is intended for candidates who have little to no background in intellectual property law.

Total Teaching Hours: 40

Duration of Each Lecture : 60 minutes.

Mode: Online mode



Eligibility:

1. Minimum intermediate (Higher secondary School Certificate) in any domain.
2. Working professionals from public and private organization.

Number of seats: 40

Duration: 45 days.

4. OUTREACH ACTIVITES

Events

- Attended "State Workshop IP Commercialization and Tech Transfer" held on 27th Feb 2025 at INST Mohali.
- Attended one-week virtual workshop on "IP SAATHI- 2024 Scientific Accountability for Accelerating Technology and Innovation through IP" 16th to 21st Dec 2024.
- Attended a conference entitled "Intellectual Property in an AI-Driven World" organised by World Intellectual Property Forum 2025 in Dubai.
- CAIDP Spring 2025 AI Policy Clinic Research Group, Center for AI & Digital Policy.
- Climate Governance, Diplomacy and Negotiations Leadership Program Cohort XVIII, African Group of Negotiators Expert Support (AGNES).
- São Paulo Innovation and Science Diplomacy School: Innovation & Science Diplomacy, and AI: Forging New Frontiers.
- Diplomacy School: Innovation & Science Diplomacy,
- AI: Forging New Frontiers, CODATA-RDA School and Advanced Workshops for Research Data Science, Trieste, Italy.
- Disaster Risk Reduction and Early Warning Systems for All through Effective Gender-Responsive Planning, Digital Government Transformation and Financing, Workshop organized by the UNDESA-DPIDG, UNPOG/DPADM/UNDESA, UNITAR CIFAL, Jeju International Training Center, JITC - Jacksonville Information Technology Council, UNDRR Office for Northeast Asia (ONEA), Global Education & Training Institute (GETI), MCR2030, UN Women, Centre of Excellence for Gender Equality with support from the Incheon Metropolitan City and the Ministry of the Interior and Safety, Republic of Korea (MOIS).
- PPP Structuring Toolkit, Workshop by Infrastructure Finance Secretariat (IFS), Department of Economic Affairs, GoI.
- Empower Her Journey Programme by VILLGRO and UNDP.

- Attended the MRS-sponsored webinar, “Bridging the Gap: Navigating Career Transitions from Academia to Industry” (03rd August 2024 – 17th August 2024). (Online Mode).
- Attended the 4th edition of the Global Bio-India 2024 - A Mega International Congregation of Biotechnology Stakeholders. Hall No. 5, Pragati Maidan, New Delhi. (12th September – 14th September 2024). (Offline Mode).
- Attended the Conference entitled “the role of industry-academia collaboration in startup ecosystem” in STPI Mohali on 6th September 2024 (Offline Mode).
- Attended the ANRF-PAIR Program to strengthen research capabilities across institutions by fostering collaborative research & innovation at Bharat Mandapam, New Delhi on 29th November 2024 (Offline Mode).
- 2024 KISTEP-ISTIC S&T Innovation Training Program for High Level Policy Makers. “Empowering Tomorrow: Advancing S&T Policies with Technology Foresight” 23 – 26 July 2024, Kuala Lumpur

Courses

- General Course on Intellectual Property DL-101E (Certificate Course by WIPO).
- Specialized Course on the Essentials of Patents (DL-170) (Certificate Course by WIPO).
- e-Tutorial on Using Patent Information (Certificate Course by WIPO).
- Introduction to Patent Cooperation Treaty DL101EPCT (Certificate Course by WIPO)
- Course on Applied Analytical and Storytelling for Data- Driven Decision Making by Global initiative for Academic Networks (GIAN) (Certificate Course by WIPO).
- Course on “Science Communication: Research Productivity and Data Analytics using Open-Source Software”. NPTEL–AICTE, Faculty Development Program. (Funded by the MOE, Govt. Of India), April 2024

Talks/Lecture Delivered

- Course on Public-Private Partnerships (PPP Lab-UNICEF project).
- Prof. Kashmir Singh delivered talk on “Start-ups policies to promote Entrepreneurship” at Central University of Punjab, Bathinda, August 18th, 2023
- Prof. Kashmir Singh, was invited as speaker at Chandigarh University, Punjab on November, 9th 2023. Prof. Kashmir delivered the talk on Intellectual Property (IP) Management
- Prof. Kashmir Singh, Coordinator, DST-CPR, PU was invited as panelist at Indo-German Science & Technology Centre (IGSTC) outreach event platform on September 14th, 2023 held at Chandigarh.
- Prof. Kashmir Singh invited for a talk on "Empowering Viksit Bharat: Unveiling the Crucial Role of Intellectual Property" on Feb 20th, 2024
- Dr. Ravneet Kaur delivered an invited lecture, “Women in Science” at CUP, Bathinda, August 18th, 2023
- Dr. Ravneet Kaur invited as Co-ordinator in Workshop-Cum-Panel Discussion on 'Dialogue on Science Diplomacy: Regional and Global Perspectives’ on Jan 20th, 2024.
- Contributed as an Expert in IP and Technology Transfer for the IP Clinics in one-day workshop titled "Industry-Academia Collaboration: IP Management and Technology Transfer" organised by intellectual Property Management & Commercialization Cell, Central University of Punjab, Bathinda.

5. OUTCOMES

5.1 Publications

Published Articles

1) Quantum technology for transforming healthcare in India. *Deepika Verma, Ravneet Kaur, Naveen, Kashmir Singh*, Current Science, 126, 1201-1203.
2) Private Sector Interventions in Disaster Risk Management. *Sukhdeep Kaur, Kashmir Singh*, International Journal of Disaster Risk Management (IJDRM), 6(2), 13.

Articles under communication

1) Mapping innovation dynamics through Patent Landscape of Quantum. *Ravneet Kaur, Deepika Verma, Naveen, Kashmir Singh*, Quantum Reports.
2) Intellectual Property Studios as a solution for bridging the gap and nurturing innovation in HEIs. *Ravneet Kaur, Deepika Verma, Aditi Chauhan, Naveen, Kashmir Singh*, Current Science.
3) India's rise to global leadership: Opportunities and challenges in innovation. *Deepika Verma, Dipanjan Nag, Kashmir Singh.*
4) Mapping innovation dynamics in Indian ecosystem by analysing the patent trends of academic and research sector in biotechnology/medical technologies. *Naveen, Ravneet Kaur, Deepika Verma, Aditi Chauhan, Kashmir Singh*.
5) Empowering Education through Private Sector Involvement: A Sustainable Development Perspective. *Sukhdeep Kaur, Nishika, Kashmir Singh*, Educational Research for Policy and Practice.
6) A study on Foreign Direct Investment (FDI) landscape in strengthening the Nation's R&D and innovation ecosystem. *Neha Taneja, Manraj Singh, Naveen, Nishika, Kashmir Singh*, Technology Forecasting and Social Change.
7) Private Sector's role to nurture sustainable development on a global scale through Innovation diplomacy. *Sukhdeep Kaur and Kashmir Singh*, The 10th Atlanta Conference on Science and Innovation Policy.
8) Impact Assessment of Policies and Initiatives towards achieving Sustainable Development Goal 9 (SDG 9) in India under 2030 Agenda. *Manraj Singh, Ravneet Kaur, Kashmir Singh.*
9) Industry-Academia interlinkages & its effect on socio-economic development of India, a Systematic study. *Sandeep Singh, Manraj Singh, Kashmir Singh*, Journal of Innovation and Knowledge

10) Building Industry-Academia Linkages: Policy Gap Analysis and Framework Development in Indian Universities. *Sandeep Singh, Manraj Singh, Kashmir Singh.*

11) A study entitled "Higher Education Trends in India: A Comprehensive Analysis of NIRF University Ranking 2015-2024" has been completed. *Aditi Chauhan and Kashmir Singh*, Indian Journal of Open Learning.

12) Global Technology Transfer Research: A Comparative Study of India, China, and the USA Using SCOPUS, *Aditi Chauhan and Kashmir Singh*, Data on Trends, Institutional Leadership, and Research Funding.

13) Unmet Data Needs: Barriers to Policy Making and National Growth. *Aditi Chauhan, Ravneet Kaur, Kashmir Singh.*

14) Empowering Education through Private Sector Involvement: A Sustainable Development Perspective. *Sukhdeep Kaur, Nishika, Kashmir Singh*, A Sustainable Development Perspective. Journal of Education for Sustainable Development-SAGE

15) Private sectors' interventions in Disaster Risk Management through Corporate Social Responsibility. *Sukhdeep Kaur and Kashmir Singh*, Journal of Integrated Disaster Risk Management.

16) Policies in Progress: A Cross-Country Analysis of AI Regulation in Science, Technology and Innovation (STI). *Nishika, Sukhdeep Kaur, Kashmir Singh*, Opinion article Engaging Science, Technology, and Society.

Any other published materials (Report and other Proposals)

1) A report entitled, "A Comprehensive Analysis of India's innovation ecosystem by mapping patent landscape of Higher educational institutions and research organizations". *Deepika Verma, Ravneet Kaur, Kashmir Singh.*

2) A handbook entitled, "Establishing a Technology Transfer Office: A Comprehensive Guide" (Under process).

3) Book proposal entitled, "Mapping trends in Innovation Ecosystems and Patent Landscapes: A Comparative Insight across India, USA and Germany" submitted to Elsevier. *Kashmir Singh, Dipanjan Nag, Ravneet Kaur, Aditi Chauhan, Deepika Verma* (Submitted).

4) A book proposal "Advancing SDG 9 in India: Enhancing Infrastructure, Fostering Innovation, and Driving Economic Growth with Insights from Global Innovation Leaders" (Submitted).

5) White Paper, "Public Private Partnerships in R&D led STI Ecosystem" submitted to DST, GoI was revamped and updated. *Sukhdeep Kaur, Nishika, Kashmir Singh*.

Book Chapters

1) Chapter entitled AI for Climate Resilience and Sustainability in AI led Innovation Ecosystem: A Tool for a Sustainable and Resilient Future. *Nishika, Sukhdeep Kaur, and Kashmir Singh*, Springer Nature.

2) Reinvigorating Science, Technology and Innovation in the country by factoring components of the innovation system. *Aditi Chauhan, Radhika Trikha Kashmir Singh*, Science, Technology and Innovation Ecosystem: A National and Global Perspectives

3) A comprehensive study of the governance of India's scientific, technological, and innovative endeavours. *Monika Kajal, Radhika Trikha, Kashmir Singh*, Science, Technology and Innovation Ecosystem: A National and Global Perspectives

4) Science, Technology and Innovation (STI) Policy Framework for Socio-economic Growth of the Nations.*Radhika Trikha and Kashmir Singh*, Science, Technology and Innovation Ecosystem: A National and Global Perspectives

5) The developments and the current state of the art in IP Acts in India. *Aditi Chauhan, Mamta Bhardwaj, Kashmir Singh*, Science, Technology and Innovation Ecosystem: A National and Global Perspectives

6) Significance of strengthening STI ecosystems for achieving sustainable development goals. *Nirmala Chongtham, Oinam Santosh, Mamta Bhardwaj*, Science, Technology and Innovation

7) Fostering inclusive development with citizen science and geospatial technologies. *Ruchi Verma, Sukhdeep Kaur, Kashmir Singh*, Science, Technology and Innovation Ecosystem: A National and Global Perspectives

5.2 Evidence-based key recommendations provided by the Centre:

a) **Study:** Fostering industry-academia interlinkages in India, based on brainstorming sessions, focused group discussions, and meetings with experts, as well as inferences drawn from studies of different countries' models

- **Recommendations:**

i. Formulate a robust policy and regulatory framework for encouraging industry-academia collaboration through tax credits, subsidies, and grants. Prepare model guidelines for MoUs, IP-sharing agreements, and research funding models to enable collaborations. (SBIR Model).

ii. Promote grassroots innovation by bridging academia and Self-Help Groups (SHGs) at the local level. Conduct regional analyses to align university-industry partnerships with regional economic needs. Encourage targeted research on national and global problems with long-term funding. Tie university funding to performance, fostering research with direct industrial applicability. (Based on the UK model).

iii. Establish clear Key Performance Indicators (KPIs) such as joint research projects, patents, industry-sponsored programs, and graduate job placement rates.

iv. Create a National UIL Monitoring System to track collaboration outcomes and reward high-performing institutions.

b) **Study:** Evaluating STI-based PPP models and initiatives in India for developing a guiding framework.

- **Recommendations:**

i. Conflict arising between public and private players under PPPs should be tackled through an independent arbitration system such as rules of arbitration by the International Chamber of Commerce (ICC) (2022).

ii. An effective Measurement, Standards, Testing, and Quality System (MSTQ) is critical for fostering the STI ecosystem. Reliable MSTQ systems should be incorporated to meet global standards and to respond to technological advancements.

iii. PPPs led R&D framework should be pivotal for enabling SMEs in terms of knowledge, and research infrastructure to compete in global markets by improving productivity in high-risk and emerging technologies. The framework should support co-financing mechanisms for frugal innovations to reduce the innovation gaps. It should act as a catalyst for inclusive

growth of industry-ready manpower by making the global R&D network accessible and gaining access to advanced technologies.

iv. Supporting measures should be taken for Private sector-led R&D like in the case of South Korea, where the first initiative came from the Public Sector through the pre-emptive predictions and analysis of the technology domains for future endeavours via converging PPPs. For the socio-economic development of a country, PPPs in R&D need mechanisms to be clarified and conclusive.

c) **Study:** Identify areas of policy gaps for stimulation of private sector investment in R&D and suggest changes in policy environment: To understand this Impact Assessment of R&D incentivization of the Private Sector in India was done in the first year of study (2023-24). The evidence collected from the study are:

- ✓ R&D is a major driver of economic growth and India requires higher investment in GERD to match global leaders.
- ✓ The investment in the R&D is directly related to strong innovation ranking and enhanced economic growth. The claim has been strengthened by the fact that the countries with higher GERD i.e. >2% of GDP demonstrated stronger innovation and economic development.
- ✓ India needs to increase their investment in GERD as its contribution is low as compared to global averages and other BRICS nations.
- ✓ Increasing Research and Development DFDI (RDFDI) inflow is an important aspect of increasing India's investment in GERD as it will bring technology transfer, market access and the creation of high-skilled jobs within India.
- ✓ R&D in India is mainly led by the central government and the state and industry involvement is very limited.
- ✓ Also as a result of insufficient academia-industry collaboration the investment by the private sector is very weak.
- ✓ Government R&D initiatives, FDI liberalization, streamlined approvals, and educational policies aim to boost innovation but require further refinement for sustained impact.

- **Recommendations:** Following are some of the recommendations based on the generated evidence for promoting RDFDI inflow to the country:

i. India should set National targets for increasing GERD to at least 2% of GDP. This can be achieved through providing tax incentives, channeling CSR funding to R&D and other benefits for enhancing private sector R&D investment.

ii. More R&D clusters should be established in collaboration with the industries. Also, industry-sponsored research projects and technology transfer from academia to industry should be encouraged.

iii. National policies for R&D in emerging technologies should be developed to promote ethical and responsible development and deployment of these technologies.

d) Study: Conducting the research on evidence-based approaches for identifying and promoting areas for generation of intellectual properties and technology transfer.

- **Recommendations:**

Objective 1: Comprehensive studies to enhance TRE, technology commercialization and triple helix collaborations in India

The following suggestions were drawn based on patent data analysis for strengthening the patent ecosystem in academic and research institutions of India

i. Formulation of State-level IP policies based on Strength, Weakness, Opportunities, and Threats (SWOT) analysis of the key stakeholders involved. The policy document should clearly include monitoring and evaluation framework, financing and implementation plan and the role and responsibilities of participating agencies.

ii. The state should allocate dedicated IP fund for encouraging and supporting cost of IP filing and maintenance especially for academic and research institutes. Then efforts be made to spread awareness of IP funding schemes at the state and national levels.

iii. Re-evaluation of the methodology for ranking academic and research institutions.

- ✓ The evaluation metrics should be inclusive of patents granted and technologies commercialized/licensed/transferred in addition to patents filed, which will give impetus to quality research over quantity.
- ✓ Institution should also be given weightage doing collaborative innovations across different technological areas and with industry partners.

- ✓ Institutions' performance should also be assessed for producing more startups, spin-offs, and the IP, especially in areas of National Interest like Quantum technology, Artificial intelligence, and Biotechnology etc.

iv. Industry-focused research be given priority, which will not only generate good patent number, but also ensure their commercial viability and utility.

v. Industry chairs or involvement of industry in designing research projects and curricula for graduates and research at academic institutions similar to IITs and IISc should be stressed.

vi. Private universities and colleges often incentivize faculty members for patent generation through financial rewards, recognition, or career advancements. Government universities/research institutes can also adopt similar strategies to increase patent output. Moreover, promoting initiatives like the "One Patent per Faculty/scientist" campaign—can be made a mandatory target for science and technology streams which could significantly boost innovation in the institutions.

vii. Integration of mandatory quality patent filing clause into Government-Funded R&D Schemes: Govt. of India has introduced several funding schemes through DST. DBT, ICAR, CSIR and other agencies to enhance the R&D ecosystem of the country, but the research assessment is limited to yearly reviews based on the achievement of objectives mentioned in the proposals submitted with the agencies. A mandatory clause of quality patent filing can be added to not only improve the research outcome but also enhance the commercial viability of the research project.

viii. Inclusion of IP experts and Industry representatives in research project assessment committees: The research project review committees at state or central funding agencies should include IP experts to assess the novelty, patentability, and commercial potential of the proposed research project. The review committee should also include industry representative of related fields because their insights can help in aligning the research projects with industry needs increasing the chances of commercialization of technology.

ix. Integrating societal impact in research projects: To drive a shift from purely academic research to impactful research that can make measurable contributions to the society and economy of the country, Impact assessment studies can be initiated as followed in Germany, South Korea and UK. In these countries patenting is the major criteria for faculty promotion

and academic and research institutions are required to submit "Research & Impact case studies" that demonstrate the societal and economic benefits of their research projects.

Objective 2: Creation of an Indian Patent Trust System

i. According to the Indian patent office report 2022-23, a significant decline in non-working patents was observed from the year 2018 (21%) to 2023 (0.4%), suggesting a wastage of the innovation potential of our research institutions.
ii. In order to overcome above mentioned issue, a well-structured patent trust system can contribute to the commercial viability of innovation. DST-CPR has developed a proposal with details mentioning the need for PTS, structure, working, governance, legal framework and financial mechanism.
iii. Indian National Patent Trust System establishment: It will be an IPO/government-supported entity.
iv. Contribution and management of innovations: Research organizations, individual persons or industries can contribute and will receive royalty-based revenue sharing. This type of centralized patent database will track usage and keep track of patent trolling.
v. Different licensing models: A suitable licensing model can be opted based on an individual entity's preference
vi. Streamlined legal and regulatory framework: The patent trust system will work under the Indian Patents Act, 1970 (amended for trust-based licensing), The Competition Act, 2002 (to prevent monopolistic patent control), The National IPR Policy (2016) (to ensure effective patent commercialization) and in alignment with TRIPS & WIPO regulations to maintain global compliance. It will also work under other Acts to streamline the process.
vii. Self-sustaining financial and revenue mechanism: It will be self-sustaining through Patent Licensing Fees, Government grants to subsidize public-interest patent, technology transfers to international agencies, tax incentives for contributors on equity basis to encourage participation.
viii. Governance and administration: National Patent Trust Authority (NPTA) will be a government-backed independent authority overseeing the PTS. It will have board members that will be representatives from DPIIT, IPO, NITI Aayog, Ministry of Science & Technology, CII, FICCI, experts from industry, and academic and research institutions.

ix. A patent licensing and dispute resolution wing which will handle licensing approvals, royalty distribution, and conflict resolution, will have experts from legal background on board.

e. Study: Higher Education Trends in India: A Comprehensive Analysis of NIRF University Rankings (2016-2024)

- **Recommendations:**

i. The state governments of Madhya Pradesh, Chhattisgarh, Bihar, Sikkim, Tripura and Nagaland should review their current education policies, if any, and take effective measures to ensure that their state's universities are represented among the top 100 universities more frequently in the NIRF rankings in future as universities from these states have appeared only once in 9 years.

ii. Manipur and Ladakh have shown no presence in terms of universities in NIRF ranking. For Ladakh it may be due to the reason that it has only one university and that too was established in 2019. However, both Manipur and Ladakh government should work on the betterment of their educational institutes.

iii. Several other states, such as Haryana, Himachal Pradesh, Uttarakhand, Gujarat and Arunachal Pradesh have appeared a few times in the top 100 universities over the past 9 years. However, there is potential for these states to perform even better. Therefore, the state governments should implement effective measures to improve the performance of their higher education systems.

iv. The NIRF ranking portal currently provides a combined list of universities, institutes, and colleges which have participated in the NIRF ranking without state-wise segregation. Providing the details of participating universities/institutes by each state would offer a clearer picture of each state's participation rate, making it easier to assess regional representation. It would also enable more meaningful comparisons between universities within the same state as well as across different states**. (Under communication).**

f. Study: Technology Transfer in Emerging and Developed Economies: A SCOPUS Analysis of the USA, China, and India

- **Recommendations and way forward for India from USA and China**

India can enhance its technology transfer ecosystem by learning from the USA's policy-driven innovation and China's government-backed R&D initiatives. Key takeaways include:

i. Strengthening Industry-Academia Collaboration (From the USA)

- Establish more Technology Transfer Offices (TTOs) in universities, similar to the USA's robust system that drives commercialization.
- Create incentive models for researchers and industries to co-develop technologies and streamline IP transfer.

2. **Expanding Government-Backed R&D (From China)**

- Increase funding for national innovation programs to boost technology self-reliance.
- Develop strategic public-private partnerships (PPP) for scaling up indigenous technology.

3. **Developing Structured Policy Frameworks (From the USA & China)**

- Implement simplified patent licensing and IP commercialization policies.
- Strengthen funding mechanisms for research translation into market-ready solutions.

4. **Focus on Emerging Technologies (From China)**

- Prioritize AI, aerospace, green energy, and semiconductor research.
- Develop large-scale R&D clusters for innovation hubs. (under communication)

5.3 MoUs:

- Formal signing ceremony of the Memorandum of Understanding (MoU) between DST-Centre for Policy Research (CPR), Panjab University (PU), Chandigarh and KIIT Technology Business Incubator Technology Transfer Office, Kalinga Institute of Industrial Technology (KIIT) University, Bhubaneswar, Odisha held on 18 Feb. 2025 in the presence of the Hon'ble VC of Panjab University, Chandigarh to enhance cooperation between the two institutions in the domain of Industry-academia collaborations, and intellectual property rights.

5.4 Upcoming books:

a. IPR protection: A catalyst for India's Innovation Ecosystem. Aditi Chauhan and Kashmir Singh, NIPA Publishers (Under preparation).

b. SDG-9 "Industry, Innovation and Infrastructure" in India, Challenges, Achievements and Future Roadmap: A Policy Perspective. Kashmir Singh, Ravneet Kaur, Manraj Singh (Under preparation).

c. Book proposal entitled, "Mapping trends in Innovation Ecosystems and Patent Landscapes: A Comparative Insight across India, USA and Germany" submitted to Elsevier. Kashmir Singh, Dipanjan Nag, Ravneet Kaur, Aditi Chauhan, Deepika Verma (Submitted).

5.5. Way forward for the Centre:

- A conceptual framework to increase PPPs for R&D will be developed.
- Mapping of Industry-Academia needs for STI through questionnaire-based studies have been conducted feedback study in association with UGC guidelines Ongoing (2025-26).
- Inferences drawn from different countries (France, Germany, USA, UK, Israel, etc.) I-A models to formulate a new comprehensive model for Indian HEIs. (2025-26).

- A standard framework would be created for quantifying Foreign Direct Investment (FDI) in R&D along with a comprehensive assessment of the Foreign MNCs and their impact on India's STI landscape.
- Detailed case studies of 10 top MNCs will be undertaken to formulate actionable policy suggestions for making India a favourable R&D destination while determining key challenges and steps to enhance FDI inflows for innovation-led growth.
- Comprehensive studies to enhance TRE, technology commercialization and triple helix collaborations in India.

1. Analysis of the innovation landscape of the academic and research institutions through questionnaire which includes the following parameters, legislative frameworks, patent filing/granting, commercialization activities, and revenue generated from commercialization/transfers, incentivization for promoting the generation of IP, and challenges faced during patent maintenance and commercialization/transfer.
2. State-level IP policy assessment for key indicators such as monitoring and evaluation framework, financing and implementation plan.

- Research on the scope of utility model of patent protection in India.
- Collection, analysis and interpretation of data pertaining to technologies (patented and non-patented) transferred by the academic sector of India over the last decade (2015-2024).
- A certificate course on Patents will be launched for students, faculty and professional.
- Certificate courses on intellectual property rights will be conducted semester-wise in university.
- Certificate course on public-private partnership will be started in the upcoming semester.
- Workshops, conferences, and webinars on IPR, PPP, I-A and technology transfer will be conducted for students, faculty and professionals.

6. NEWS CORNER

TRICITY MAIL

पीयू में टेक्सटाइल और फैशन उद्योग में नवाचारों की रक्षा में बौद्धिक संपदा अधिकारों की भूमिका' शीर्षक पर कार्यशाला

ब्यूरो, गुड्गांव मेल।

चंडीगढ़। पंजाब विश्वविद्यालय (पीयू) के गोल्डन जुबली हॉल में सुबह 9 बजे से शाम 5 बजे तक 'टेक्सटाइल और फैशन उद्योग में नवाचारों की रक्षा में बौद्धिक संपदा अधिकारों की भूमिका' शीर्षक से कार्यशाला आयोजित की गई। कार्यशाला का आयोजन डीएसटी-सेंटर फॉर पॉलिसी रिसर्च (सीपीआर), पीयू, चंडीगढ़ द्वारा यूनिवर्सिटी इंस्टीट्यूट ऑफ फैशन टेक्नोलॉजी (यूआईएफटी), पीयू, नेशनल इंस्टीट्यूट ऑफ फैशन टेक्नोलॉजी (एनआईएफटी), पंचकूला के साथ साझेदारी में और आंशिक रूप से पंजाब राज्य विज्ञान और प्रौद्योगिकी परिषद (पीएससीएसटी), पंजाब सरकार द्वारा प्रायोजित किया गया था। इस कार्यक्रम में स्टार्टअप मालिकों, उद्यमियों, शोध विद्वानों और विभिन्न कॉलेजों और संस्थानों के छात्रों सहित 150 उपस्थित लोगों ने भाग लिया। कार्यशाला की शुरुआत डीएसटी-सीपीआर के समन्वयक प्रोफेसर कश्मीर सिंह के स्वागत भाषण से हुई, जिसके बाद पंजाब विश्वविद्यालय के रजिस्ट्रार प्रोफेसर यजवेंद्र पाल वर्मा के नेतृत्व में उद्घाटन हुआ, जिन्होंने भारत की अर्थव्यवस्था में कपड़ा निर्यात के महत्व को रेखांकित किया। विशिष्ट अतिथियों में पंजाब सरकार के पीएससीएसटी के कार्यकारी निदेशक इंजीनियर प्रितपाल सिंह शामिल थे, जिन्होंने इस बात पर प्रकाश डाला कि कैसे पीएससीएसटी द्वारा विकसित प्रौद्योगिकियां 9,000 से अधिक उद्योगों की सहायता कर रही हैं। उन्होंने सामाजिक लाभ सुनिश्चित करने के लिए इन प्रौद्योगिकियों के व्यावसायीकरण के महत्व पर भी बल दिया। निफ्ट पंचकूला के निदेशक डॉ. अमनदीप सिंह ग्रोवर ने फैशन और वस्त्र क्षेत्र के प्रत्येक छात्र के लिए बौद्धिक संपदा अधिकार (आईपीआर) जागरूकता के महत्व पर बल दिया। पीएससीएसटी, पंजाब की संयुक्त निदेशक डॉ. दविंदर कौर बख्शी मुख्य अतिथि मृदुला जैन, शिंगोरा टेक्सटाइल्स, पंजाब की उपाध्यक्ष ने मुख्य भाषण दिया। उन्होंने शिंगोरा को विश्व स्तर पर मान्यता प्राप्त ब्रांड में बदलने की अपनी प्रेरक यात्रा साझा की।

उन्होंने इस दौरान आने वाली चुनौतियों और अवसरों के बारे में विस्तार से बताया, तथा शिंगोरा की सफलता में योगदान देने वाले रणनीतिक निर्णयों और अभिनव दृष्टिकोणों के बारे में बहुमूल्य जानकारी प्रदान की। श्रीमती जैन ने प्रतिभागियों को ब्रांड निर्माण के लिए सबसे प्रभावी रणनीतियों के बारे में भी बताया, तथा गुणवत्ता, निरंतरता और बाजार के रुझानों को समझने के महत्व पर जोर दिया।

AJIT PUNJABI

ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਵਿਖੇ ਵਿਸ਼ਵ ਬੌਧਿਕ ਸੰਪਤੀ ਦਿਵਸ ਮਨਾਉਣ ਤੋਂ ਪਹਿਲਾ ਸਮਾਂ ਰੌਸ਼ਨ ਕਰਦੇ ਹੋਏ ਪ੍ਰੋ. ਯਜਵਿੰਦਰ ਪਾਲ ਵਰਮਾ ਰਜਿਸਟਰਾਰ ਤੇ ਹੋਰ ਪਤਵੰਤੇ। ਤਸਵੀਰ : ਕਮਲਜੀਤ ਸਿੰਘ

ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ 'ਚ ਵਿਸ਼ਵ ਬੌਧਿਕ ਸੰਪਤੀ ਦਿਵਸ ਮਨਾਇਆ

ਚੰਡੀਗੜ੍ਹ, 26 ਅਪ੍ਰੈਲ (ਮਾਰਕੰਡਾ)- ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਚੰਡੀਗੜ੍ਹ ਵਿਖੇ ਰਾਸ਼ਟਰੀ ਉੱਚਤਰ ਸਿੱਖਿਆ ਅਭਿਆਨ 2.0 ਅਧੀਨ ਵਿਸ਼ਵ ਬੌਧਿਕ ਸੰਪਤੀ ਦਿਵਸ ਮਨਾਇਆ ਗਿਆ। ਇਸ ਜਸ਼ਨ ਨੇ ਸੰਗੀਤ ਬਣਾਉਣ ਲਈ ਨਵੀਨਤਾ ਅਤੇ ਸਿਰਜਣਾਤਮਿਕਤਾ ਦੀਆਂ ਸੀਮਾਵਾਂ ਨੂੰ ਅੱਗੇ ਵਧਾਉਣ ਲਈ ਖੋਜਕਾਰਾਂ ਦੇ ਯੋਗਦਾਨ ਨੂੰ ਉਜਾਗਰ ਕੀਤਾ। ਪ੍ਰੋ. ਯਜਵਿੰਦਰ ਪਾਲ ਵਰਮਾ ਰਜਿਸਟਰਾਰ ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਚੰਡੀਗੜ੍ਹ ਨੇ ਸਮਾਗਮ ਵਿਚ ਸ਼ਿਰਕਤ ਕੀਤੀ। ਉਨ੍ਹਾਂ ਨੇ ਭਾਰਤ ਵਿਚ ਮੌਜੂਦ ਸੰਗੀਤ ਦੇ ਵੱਖੋ-ਵੱਖਰੇ ਪਹਿਲੂਆਂ ਨੂੰ ਉਜਾਗਰ ਕੀਤਾ ਜਿਨ੍ਹਾਂ ਦੇ ਪਹਿਲੂਆਂ ਤੋਂ ਮਾਨਤਾ ਦੇਣ ਦੀ ਜ਼ਰੂਰਤ ਹੈ। ਜਤਿਨ ਤਲਵਾਰ (ਤਲਵਾਰ ਸੰਸਥਾ ਦੇ ਸਲਾਹਕਾਰ) ਨੇ ਮੁੱਖ ਭਾਸ਼ਣ ਦਿੱਤਾ ਅਤੇ ਆਈ.ਪੀ. ਤੋਂ ਬਾਹਰ ਆਉਣ ਵਾਲੇ ਸੰਗੀਤ ਦੀ ਰਾਇਲਟੀ ਮਹੱਤਤਾ ਨੂੰ ਅੱਗੇ ਲਿਆਂਦਾ। ਉਸਨੇ ਹਿੰਦੀ ਗੀਤਾਂ ਅਤੇ ਇਸ਼ਤਿਹਾਰਾਂ ਰਾਹੀਂ ਸੰਗੀਤਕਾਰਾਂ ਅਤੇ ਰਚਨਾਕਾਰਾਂ ਦੀਆਂ ਕਈ ਉਦਾਹਰਣਾਂ ਦਾ ਹਵਾਲਾ ਦਿੱਤਾ। ਉਸਨੇ ਕਾਪੀਰਾਈਟ ਉਲੰਘਣਾਵਾਂ ਅਤੇ ਸਿਧਾਂਤਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿੱਤੀ। ਪ੍ਰਨੀਤ ਬਿਸਵਾਸ ਐਸ.ਐਸ. ਰਾਣਾ ਐਂਡ ਕੰਪਨੀ ਨਵੀਂ ਦਿੱਲੀ ਵਿਖੇ ਮੈਨੇਜਿੰਗ ਐਸੋਸੀਏਟ ਨੇ ਭਾਗੀਦਾਰਾਂ ਨੂੰ ਵੱਖ-ਵੱਖ ਪੇਟੈਂਟਾਂ ਬਾਰੇ ਜਾਣੂ ਕਰਵਾਇਆ। ਪ੍ਰੋ. ਕਸ਼ਮੀਰ ਸਿੰਘ ਕੋਆਰਡੀਨੇਟਰ ਡੀ.ਐਸ.ਟੀ-ਸੀ.ਪੀ.ਆਰ ਨੇ ਆਈ.ਪੀ ਦੀ ਮਹੱਤਤਾ ਨੂੰ ਨਾ ਸਿਰਫ ਵਿਗਿਆਨ, ਤਕਨਾਲੋਜੀ ਅਤੇ ਨਵੀਨਤਾ ਤੱਕ ਸੀਮਿਤ ਕਰਨ ਲਈ ਉਜਾਗਰ ਕੀਤਾ। ਬਲਕਿ ਸੰਗੀਤ ਵਰਗੇ ਹੋਰ ਖੇਤਰਾਂ ਵਿਚ ਵੀ ਇਸ ਦੇ ਮਜ਼ਬੂਤ ਪੈਰਾਂ ਦੇ ਨਿਸ਼ਾਨ ਹਨ। ਪ੍ਰੋ. ਸਿੰਘ ਨੇ ਡੀ.ਐਸ.ਟੀ.-ਸੀ.ਪੀ.ਆਰ. ਵਲੋਂ ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਨੂੰ ਨੀਤੀ ਅਤੇ ਹੋਰ ਪਹਿਲੂਆਂ ਲਈ ਪਾਏ ਯੋਗਦਾਨ ਦੀ ਜਾਣਕਾਰੀ ਦਿੱਤੀ।

DAINIK TRIBUNE

कपड़ा और फैशन उद्योग में बौद्धिक संपदा अधिकारों पर कार्यशाला

चंडीगढ़, 22 अगस्त (ट्रिब्यून)

पंजाब यूनिवर्सिटी (पीयू) के डीएसटी-सेंटर फॉर सीमसी द्वारा आज गोल्डन जुबली हॉल में 'कपड़ा और फैशन उद्योग में नवाचारों की रक्षा में बौद्धिक संपदा अधिकारों की भूमिका' विषय पर एक कार्यशाला का आयोजन किया गया।

सीपेजार, यूनिवर्सिटी इंस्टीट्यूट ऑफ फैशन टेक्नोलॉजी (यूआईएफटी), नेशनल इंस्टीट्यूट ऑफ फैशन टेक्नोलॉजी (एनआईएफटी), पंचकूला के साथ साझेदारी में आयोजित इस कार्यक्रम में स्टार्टअप मालिकों, उद्यमियों, रिसर्च स्कॉलरों और विभिन्न कॉलेजों और संस्थानों के छात्रों सहित 150 उपस्थित लोगों ने भाग लिया। कार्यशाला की शुरुआत डीएसटी-सीपीआर के समन्वयक कमलेश सिंह के स्वागत भाषण से हुई। पंजाब विश्वविद्यालय के रजिस्ट्रार प्रो. राजेश पाल वर्मा ने कार्यशाला का उद्घाटन किया और भारत की अर्थव्यवस्था में कपड़ा निर्यात के महत्व को रेखांकित किया।

विशिष्ट अतिथियों में पंजाब सरकार के पंजाब स्टेट काउंसिल फॉर साइंस एंड टेक्नोलॉजी (पीएससीएसटी) के कार्यकारी निदेशक प्रीतपाल सिंह पी ये जिन्होंने इस बात पर प्रकाश डाला कि कैसे पीएससीएसटी द्वारा विकसित प्रौद्योगिकियां 9,000 से अधिक उद्योगों की मदद कर रही हैं। उन्होंने सामाजिक लाभ सुनिश्चित करने के लिए इन प्रौद्योगिकियों के व्यावसायीकरण के महत्व पर भी जोर दिया। निदेशक अमनदीप सिंह ग्रेवाल ने फैशन और कपड़ा क्षेत्र में प्रत्येक छात्र के लिए बौद्धिक संपदा अधिकार (आईपीआर) जागरूकता के महत्व पर जोर दिया। डॉ. दविंदर कौर बख्शी, संयुक्त निदेशक, पीएससीएसटी पंजाब ने प्रतिभागियों को पीएससीएसटी के माध्यम से उपलब्ध समर्थन और सहयोगात्मक अवसरों के बारे में एक संक्षिप्त विवरण दिया और कपड़ा उद्योग को सशक्त बनाने के उद्देश्य से सरकार की विभिन्न योजनाओं पर चर्चा की।

मुख्य अतिथि रिजिस्ट्रार टेक्सटाइल्स, पंजाब की वाइस चेयरपर्सन मृदुला जैन ने अपने संबोधन में रिसर्च को विश्व स्तर पर मान्यता प्राप्त ज्ञान ढांचे में बदलने की अपनी प्रेरक यात्रा साझा की। दिव्या चौरिशक ने कपड़ा और फैशन उद्योग में बौद्धिक संपदा के दावे पर एक व्यावहारिक वार्ता दी।

पंजाब विश्वविद्यालय में कानून विभाग से ज्योति रतन ने कपड़ा और फैशन उद्योग में बौद्धिक संपदा अधिकारों के लिए रुझानों के मुद्दों और चुनौतियों पर प्रकाश डाला। राहुल त्रनेजा ने फैशन और कपड़ा उद्योग, विशेष रूप से आईपी सुरक्षा के क्षेत्र में एचएसएसएसटी द्वारा किए गए योगदान को रेखांकित किया और आईपीआर के महत्व पर भी विस्तार से चर्चा की। कार्यशाला में कपड़ा और फैशन उद्योग में उभरते स्टार्टअप के अभिनव कार्यों को प्रदर्शित करने वाली एक प्रदर्शनी लगाई गई।

DEMOKRATIC FRONT

डीएसटी केंद्र की 'गतिविधि पुस्तिका' का शुभारंभ

डेमोक्रेटिक फ्रंट चंडीगढ़। पंजाब विश्वविद्यालय, चंडीगढ़ की कुलपति प्रोफेसर रेणु विग ने 07 अगस्त 2024 को सत्र 2023-2024 के लिए नीति अनुसंधान के लिए डीएसटी केंद्र की %गतिविधि पुस्तिका% का शुभारंभ किया। गतिविधि पुस्तिका में भारत के अनुसंधान एवं विकास पारिस्थितिकी तंत्र को मजबूत करने के बारे में बौद्धिक संपदा अधिकार (आईपीआर), उद्योग-अकादमिक सहयोग, निजी क्षेत्र के प्रोत्साहन और सार्वजनिक-निजी भागीदारी (पीपीपी) के क्षेत्र में किए गए अध्ययन शामिल हैं। डीएसटी-सीपीआर, पीयू पूरे भारत के लिए विज्ञान और प्रौद्योगिकी नीतियों को विकसित करने की दिशा में आगे बढ़ रहा है और क्रमशः आईए सहयोग, आईपीआर, प्रौद्योगिकी हस्तांतरण, आपदा जोखिम प्रबंधन और एसडीजी के संबंध में एसटीआई डोमेन में विशेषज्ञता के साथ विषयगत क्षेत्रों में क्षमता निर्माण की पहल प्रदान करता है।

DAINIK SAVERA

पीयू की नीति अनुसंधान के लिए डीएसटी केंद्र की गतिविधि पुस्तिका का हुआ विमोचन

सवेरा न्यूज/राकेश

चंडीगढ़, 7 अगस्त : पंजाब विश्वविद्यालय की कुलपति प्रोफैसर रेणु विग ने बुधवार को सत्र 2023-2024 के लिए नीति अनुसंधान के लिए डीएसटी केंद्र की गतिविधि पुस्तिका का विमोचन किया। गतिविधि पुस्तिका में भारत के अनुसंधान एवं विकास पारिस्थितिकी तंत्र को मजबूत करने के बारे में बौद्धिक संपदा अधिकार (आईपीआर), उद्योग-अकादमिक सहयोग, निजी क्षेत्र के प्रोत्साहन और सार्वजनिक-निजी भागीदारी (पीपीपी) के क्षेत्र में किए गए अध्ययन शामिल हैं।

डीएसटी-सीपीआर, पीयू पूरे भारत के लिए विज्ञान और प्रौद्योगिकी नीतियों को विकसित करने की दिशा में आगे बढ़ रहा है और क्रमशः आईए सहयोग, आईपीआर, प्रौद्योगिकी हस्तांतरण, आपदा जोखिम प्रबंधन और एसडीजी के संबंध में एसटीआई डोमेन में विशेषज्ञता के साथ विषयगत क्षेत्रों में क्षमता निर्माण की पहल प्रदान करता है। केंद्र समाज पर विज्ञान और प्रौद्योगिकी के प्रभाव को बढ़ाने के लिए सहभागिता, संवाद, ज्ञान का आदान-प्रदान, तथा नवीन रणनीतियों और सर्वोत्तम प्रथाओं की खोज कर रहा है, ताकि राष्ट्रीय स्तर पर मजबूत नीतियों पर चर्चा और विकास के लिए एक सहयोगात्मक वातावरण बनाया जा सके।

पीयू के नीति अनुसंधान के लिए डीएसटी केंद्र की गतिविधि पुस्तिका का विमोचन करती हुई वीसी प्रो. रेणु विग।

JAG MARG

आयोजित

पीयू में मनाया गया विश्व बौद्धिक संपदा दिवस, संगीत और आईपी के रिश्ते पर हुई चर्चा

संगीत हमारी संस्कृति का एक अनमोल हिस्सा, इसे सहेज कर रखें : प्रो. यजवेंद्र पाल वर्मा

➪ प्रतिभागियों को अपने क्षेत्रीय संगीत की खोज करने को प्रेरित किया

तानिया अग्रवाल

चंडीगढ़ (जगमार्ग न्यूज)। संगीत हमारी संस्कृति का एक अनमोल हिस्सा है, जिसे संरक्षित करना जरूरी है। इसी सोच के साथ पंजाब यूनिवर्सिटी (पीयू) के डीएसटी-सेंटर फॉर पॉलिसी रिसर्च (सीपीआर) ने इंस्टीट्यूट इनोवेशन काउंसिल (आईआईसी) और संगीत विभाग के साथ मिलकर राष्ट्रीय उच्चतर शिक्षा अभियान 2.0 (रूसा 2.0) के तहत विश्व बौद्धिक संपदा (आईपी) दिवस मनाया। इस मौके पर 'आईपी और संगीत: आईपी की धड़कन को महसूस करें' विषय पर एक कार्यक्रम आयोजित किया गया।

कार्यक्रम का मकसद यह समझना था कि कैसे आईपी अधिकार और नवाचार नीतियां रचनाकारों, नवप्रवर्तकों और उद्यमियों को आगे बढ़ने में मदद करती हैं।

समारोह में पंजाब यूनिवर्सिटी के रजिस्ट्रार प्रोफेसर यजवेंद्र पाल वर्मा ने मुख्य अतिथि के रूप में भाग लिया। अपने संबोधन में उन्होंने वेदों में संगीत के महत्व का उल्लेख करते हुए बताया कि प्राचीन भारतीय सभ्यता में संगीत को आत्मा की भाषा माना गया है। उन्होंने भारत के महान संगीतज्ञों का उदाहरण देते हुए कहा कि हमारी सांस्कृतिक धरोहर में संगीत का एक अनूठा स्थान है।

प्रो. वर्मा ने प्रतिभागियों को प्रेरित करते हुए कहा कि हमें अपने क्षेत्रीय और लोक संगीत की पहचान करनी चाहिए, उसकी गहराई को समझना चाहिए और उसे संरक्षित कर आने वाली पीढ़ियों तक पहुंचाना चाहिए। उन्होंने यह भी कहा कि संगीत न केवल मनोरंजन का साधन है, बल्कि यह हमारी सांस्कृतिक जड़ों से जुड़ने का जरिया भी है, जिसे संरक्षण और संवर्धन की आवश्यकता है।

प्रेरणा और नकल में फर्क करना जरूर

मुख्य वक्ता जतिन तलवार, जो तलवार एडवोकेट्स के पार्टनर और कंसल्टेंट संस्थापक हैं, ने संगीत से जुड़ी रचनात्मकता और बौद्धिक संपदा अधिकारों के महत्व पर रोशनी डाली। उन्होंने बताया कि हिंदी गानों और बिल्लामनी के उदाहरणों के जरिए यह समझा जा सकता है कि कलाकारों को उनके काम के लिए कैसे रॉयल्टी मिलती है। उन्होंने यह भी समझाया कि प्रेरणा और नकल में फर्क करना जरूरी है और कॉपीराइट का उल्लंघन किस तरह से गलत है।

आईपी का संगीत क्षेत्र में भी अहम योगदान

नई दिल्ली की एस.एस. राणा एंड कंपनी के प्रतिभा विश्वास ने प्रतिभागियों को पेटेंट और संगीत उद्योग में तकनीक के इस्तेमाल की जानकारी दी। उन्होंने व्यक्तिगत अधिकारों और उनके उल्लंघन से जुड़े नियमों पर भी चर्चा की। डीएसटी-सीपीआर, पीयू के समन्वयक प्रो. कश्मीर सिंह ने कहा कि आईपी अधिकार सिर्फ विज्ञान और तकनीक तक सीमित नहीं है, बल्कि संगीत जैसे रचनात्मक क्षेत्रों में भी इनकी अहम भूमिका है। उन्होंने पीयू में नीति निर्माण और नवाचार के क्षेत्र में डीएसटी-सीपीआर की गतिविधियों के बारे में भी बताया। कार्यक्रम में पीयू के छात्रों, शोधकर्ताओं और शिक्षकों ने उत्साह से भाग लिया।

PUNJAB KESARI

पी.यू. में कार्यशाला : कार्बन फुटप्रिंट को कम करने के लिए शोध किया जाना जरूरी : टी.सी. नौटियाल

कार्बन उत्सर्जन को बढ़ाने में योगदान देने वाले विभिन्न मुद्दों पर प्रकाश डाला

चंडीगढ़, 18 फरवरी (रश्मि हंस) : डी.एस.टी. सैंटर फॉर पॉलिसी रिसर्च (सी.पी.आर.) पंजाब विश्वविद्यालय ने जैव प्रौद्योगिकी विभाग और पंजाब राज्य विज्ञान एवं प्रौद्योगिकी परिषद, पंजाब सरकार के सहयोग से 'कार्बन फुटप्रिंट को कम करके शुद्ध शून्य उत्सर्जन को समझना और प्राप्त करना' विषय पर एक दिवसीय कार्यशाला का आयोजन किया। कार्यशाला का उद्देश्य शुद्ध शून्य उत्सर्जन के बारे में जागरूकता बढ़ाना, मार्गदर्शन प्रदान करना और जलवायु लचीलेपन के लिए रणनीति सुझाना था। इस दौरान पी.यू. के जैव प्रौद्योगिकी विभाग के अध्यक्ष प्रो. देश दीपक सिंह ने स्वागत भाषण दिया।

टी.सी. नौटियाल आई.एफ.एस., मुख्य वन संरक्षक, डी.ओ.एफ. डब्ल्यू. चंडीगढ़ इस कार्यक्रम के मुख्यातिथि थे। उन्होंने शैवाल जैसी विभिन्न वैकल्पिक सामग्रियों का उल्लेख किया, जिन पर कार्बन फुटप्रिंट को कम करने के लिए शोध किया जाना चाहिए। उन्होंने प्रतिभागियों को गैर-प्लास्टिक-आधारित सामग्री विकसित करने के लिए अनुसंधान एवं विकास पर ध्यान केंद्रित करने के लिए प्रोत्साहित किया और पंजाब विश्वविद्यालय से अपने प्रयासों में तेजी लाने और चंडीगढ़ में अक्षय ऊर्जा के क्षेत्र में अग्रणी बनने का आग्रह किया। पी.यू. के रजिस्ट्रार प्रो. यजवेंद्र पाल वर्मा ने कार्बन उत्सर्जन को कम करने के बारे में जानकारी दी। कार्यक्रम के मुख्य अतिथि इंजीनियर प्रितपाल सिंह, कार्यकारी निदेशक, पी.एस.सी.एस.टी. चंडीगढ़ और डॉ. कुलबीर सिंह बाठ संयुक्त निदेशक, पी.एस.सी.एस.टी. चंडीगढ़ थे। इंजीनियर जलवायु परिवर्तन नीति के समर्थक प्रितपाल सिंह ने कार्बन उत्सर्जन को बढ़ाने में योगदान देने वाले विभिन्न मुद्दों पर प्रकाश डाला।

PUNJAB KESARI

पी.यू. में कार्यशाला : कार्बन फुटप्रिंट को कम करने के लिए शोध किया जाना जरूरी : टी.सी. नौटियाल

कार्बन उत्सर्जन को बढ़ाने में योगदान देने वाले विभिन्न मुद्दों पर प्रकाश डाला

चंडीगढ़, 18 फरवरी (रश्मि हंस) : डी.एस.टी. सैंटर फॉर पॉलिसी रिसर्च (सी.पी.आर.) पंजाब विश्वविद्यालय ने जैव प्रौद्योगिकी विभाग और पंजाब राज्य विज्ञान एवं प्रौद्योगिकी परिषद, पंजाब सरकार के सहयोग से 'कार्बन फुटप्रिंट को कम करके शुद्ध शून्य उत्सर्जन को समझना और प्राप्त करना' विषय पर एक दिवसीय कार्यशाला का आयोजन किया। कार्यशाला का उद्देश्य शुद्ध शून्य उत्सर्जन के बारे में जागरूकता बढ़ाना, मार्गदर्शन प्रदान करना और जलवायु लचीलेपन के लिए रणनीति सुझाना था। इस दौरान पी.यू. के जैव प्रौद्योगिकी विभाग के अध्यक्ष प्रो. देश दीपक सिंह ने स्वागत भाषण दिया।

टी.सी. नौटियाल आई.एफ.एस., मुख्य वन संरक्षक, डी.ओ.एफ. डब्ल्यू. चंडीगढ़ इस कार्यक्रम के मुख्यातिथि थे। उन्होंने शैवाल जैसी विभिन्न वैकल्पिक सामग्रियों का उल्लेख किया, जिन पर कार्बन फुटप्रिंट को कम करने के लिए शोध किया जाना चाहिए। उन्होंने प्रतिभागियों को गैर-प्लास्टिक-आधारित सामग्री विकसित करने के लिए अनुसंधान एवं विकास पर ध्यान केंद्रित करने के लिए प्रोत्साहित किया और पंजाब विश्वविद्यालय से अपने प्रयासों में तेजी लाने और चंडीगढ़ में अक्षय ऊर्जा के क्षेत्र में अग्रणी बनने का आग्रह किया। पी.यू. के रजिस्ट्रार प्रो. यजवेंद्र पाल वर्मा ने कार्बन उत्सर्जन को कम करने के बारे में जानकारी दी। कार्यक्रम के मुख्य अतिथि इंजीनियर प्रितपाल सिंह, कार्यकारी निदेशक, पी.एस.सी.एस.टी. चंडीगढ़ और डॉ. कुलबीर सिंह बाठ संयुक्त निदेशक, पी.एस.सी.एस.टी. चंडीगढ़ थे। इंजीनियर जलवायु परिवर्तन नीति के समर्थक प्रितपाल सिंह ने कार्बन उत्सर्जन को बढ़ाने में योगदान देने वाले विभिन्न मुद्दों पर प्रकाश डाला।

DAINIK JAGRAN

'नेट जीरो एमिशन से कार्बन फुटप्रिंट कम करने' पर कार्यशाला

जासं, चंडीगढ़ : पंजाब यूनिवर्सिटी के डीएसटी-सीपीआर की ओर से बायोटेक्नोलाजी विभाग और पंजाब स्टेट काउंसिल फार साइंस एंड टेक्नोलाजी के सहयोग से "नेट जीरो एमिशन द्वारा कार्बन फुटप्रिंट कम करने" पर एकदिवसीय कार्यशाला आयोजित की गई। कार्यक्रम के मुख्य अतिथि टीसी नौटियाल, मुख्य वन संरक्षक ने वैकल्पिक सामग्री, जैसे शैवाल पर शोध की आवश्यकता पर जोर दिया और प्लास्टिक रहित उत्पादों को बढ़ावा देने की बात कही। उन्होंने पीयू को नवीकरणीय ऊर्जा क्षेत्र में अग्रणी बनने के लिए प्रेरित किया। पीयू के रजिस्ट्रार प्रो. वाईपी वर्मा ने कार्बन उत्सर्जन कम करने की रणनीति पर प्रकाश डाला और नवीकरणीय ऊर्जा को अपनाने की अपील की। पीयू ने सौर ऊर्जा उत्पादन और प्लास्टिक पुनः उपयोग को भी रेखांकित किया गया। कार्यक्रम में इंजीनियर प्रीतपाल सिंह, डा. कुलबीर सिंह बाथ और डा. हर अमृत सिंह संधू ने जलवायु परिवर्तन से निपटने के उपायों पर व्याख्यान दिए।

DAINIK BHASKAR

चंडीगढ़ भास्कर 19-02-2025

पीयू वर्कशॉप: कार्बन फुटप्रिंट कम करने में कारगर है एल्गी

चंडीगढ़ | पंजाब यूनिवर्सिटी के डीएसटी-सेंटर फॉर पॉलिसी रिसर्च (सीपीआर) ने पीयू के बायोटेक्नोलॉजी विभाग और पंजाब राज्य विज्ञान एवं प्रौद्योगिकी परिषद, पंजाब सरकार के सहयोग से 'कार्बन फुटप्रिंट को कम करके नेट जीरो एमिशन को समझना और प्राप्त करना' विषय पर एक दिन की वर्कशॉप आयोजित की। इस मौके पर चंडीगढ़ प्रशासन में चीफ कंजर्वेटर ऑफ फॉरेस्ट्स टीसी नौटियाल चीफ गेस्ट थे। पीयू के रजिस्ट्रार प्रो. वाईपी वर्मा भी मौजूद रहे। उन्होंने कार्बन फुटप्रिंट को कम करने के लिए रिसर्च के लिए एल्गी जैसे विभिन्न वैकल्पिक मटीरियल के बारे में बात की। प्रतिभागियों को नॉन-प्लास्टिक बेस्ड मटीरियल्स विकसित करने के लिए रिसर्च एंड डेवलपमेंट पर ध्यान देने को कहा।

7. GLIMPSES OF MOMENTS

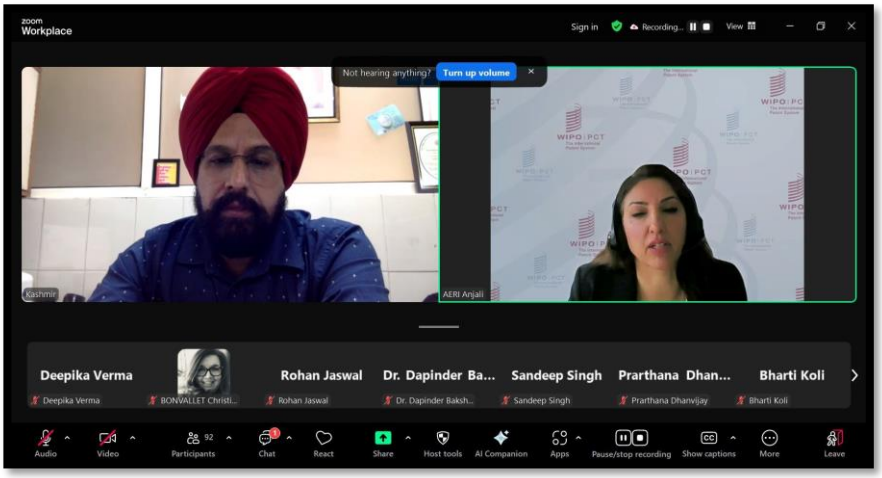
Understanding and Achieving Net Zero Emission by Reducing Carbon Footprint (February 18, 2025)

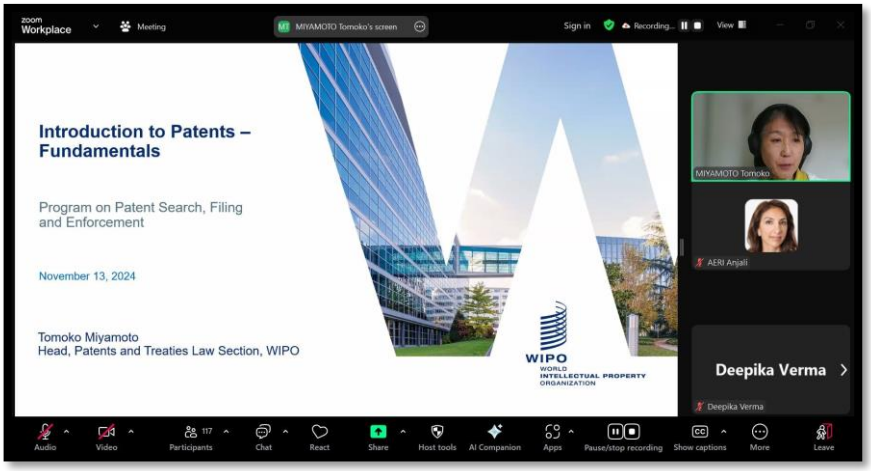
International Conference on "Strengthening Industry-Academia Linkages for Effective Technology Transfer (January 31, 2025)

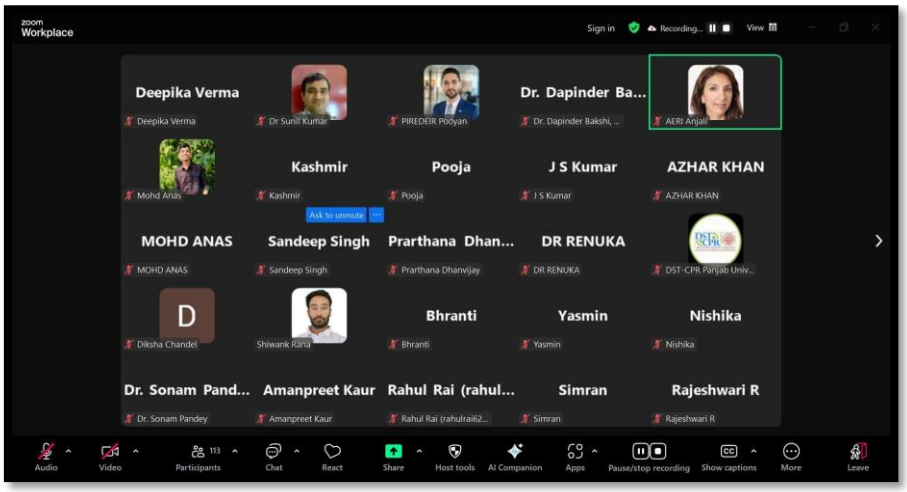
Interactive Dialogue on India's Intellectual Property Ecosystem (November 20, 2024)

1st Local Project Advisory Committee (LPAC) meeting (November 21, 2024)

DST-Centre for Policy Research's representation at 17th CHASCON (Chandigarh Science Congress), Panjab University, Chandigarh (November 6-8, 2024)





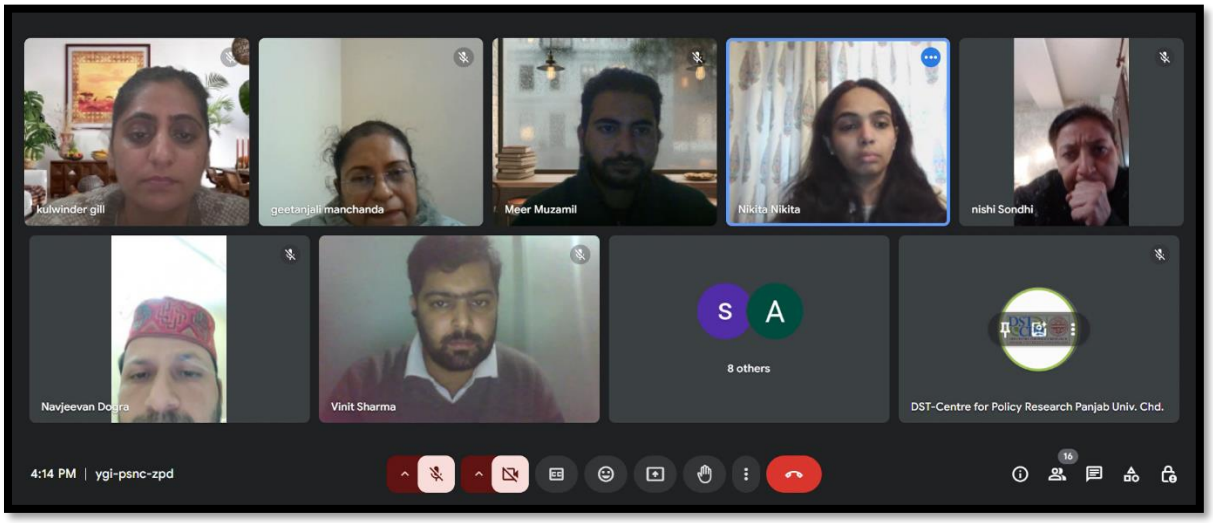


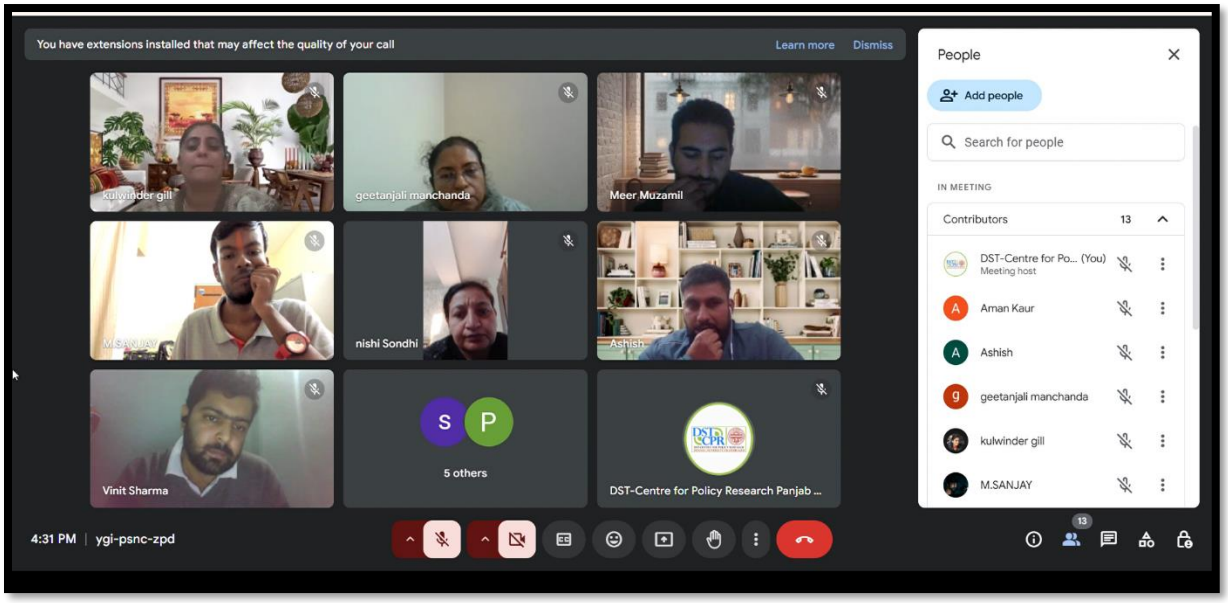
Patent Search, Filing, and Enforcement (November 13, 2024)

Visit by Associate Head and Scientist G, PCPM division, DST, GoI (August 13, 2024)

Role of Intellectual Property Rights in Protecting Innovations in Textile and Fashion Industry (August 22, 2024)

National Brainstorming on Transforming Science, Technology and Innovation Ecosystem of India (May 22, 2024)





Batch I: Certificate Course in Intellectual Property Rights By DST-CPR Panjab University Chandigarh
(September 2024 to January 2025)

Batch II Certificate Course in Intellectual Property Rights By DST-CPR Panjab University Chandigarh (February to May, 2025)

8. LOCAL PROJECT ADVISORY COMMITTEE

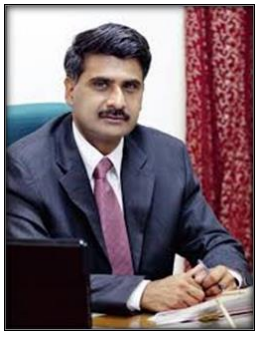
S.No.	Name	Role	Designation
1.	**Sh. Sunil Kumar, IFS**	Chairman	Additional Secretary, Department of Science and Technology, Government of India
2.	**Dr. Jatinder Kaur Arora**	Member	Executive Director Punjab State Council for Science & Technology, Chandigarh
3.	**Prof. Rupinder Tewari**	Member	Former & First Coordinator, DST-Centre for Policy Research Mentor, Technology Enabling Centre, Panjab University, Chandigarh
4.	**Prof. Kashmir Singh**	Coordinator	Coordinator DST-Centre for Policy Research Panjab University, Chandigarh

9. STAFF DETAILS

9.1. PRINCIPAL INVESTIGATORS/CO-INVESTIGATORS

Dr. Kashmir Singh,
(Coordinator and Principal Investigator)

Dr. Kashmir Singh, Professor, Department of Biotechnology is the current coordinator of DST- Centre for Policy Research, Panjab University, Chandigarh. Although, indirectly he was associated with DST-CPR, PU right from the inception of the center. He is a professor and Chairman of the Department of Biotechnology. He has over 16 years of teaching and research experience. Dr. Kashmir is associated with the science and public administration field and has developed core expertise in the field of science policies and research, innovation, and entrepreneurship. He is associated with the functioning of units established at Panjab University dealing with translational research ecosystems such as the Technology Enabling Centre (TEC), Centre for Industry Institute Partnership Programme (CIIPP), and Chandigarh Region of Innovation and Knowledge Cluster (CRIKC). He has experience in coordinating with Industry for undertaking joint collaborative projects and capacity enhancement work. His experience in networking and coordinating with academic and research institutes, university departments, industry, and start-ups will be useful to understand stakeholder perspectives and their needs and challenges in the existing STI ecosystem. Moreover, Prof. Kashmir has many publications (papers, reports, books, etc.) and projects to his credit in the domain of technology development and commercialization, industry-academia liaising, collaborative research, intellectual property rights, etc.



Prof. Sanjeev K Sharma
(Co-Investigator)

Prof. Sanjeev K Sharma is serving as Director of the Internal Quality Assurance Cell (IQAC) at Panjab University. In addition, he is the Coordinator of the Swami Vivekananda Centre for Interdisciplinary Studies at the same institution. He holds a professorship at the University Institute of Applied Management Sciences (UIAMS) at Panjab University. Furthermore, he has an indirect association with the DST-Centre for Policy Research (DST-CPR) at Panjab University, serving as a Co-Investigator. He completed his Master's degree in Business Administration from Banaras Hindu University. He later earned a Doctorate of Philosophy in Marketing/Marketing Management. Throughout his illustrious career, Dr. Sanjeev has made significant academic contributions, including the publication of three books. His research output is extensive, with over 75 research papers published in reputed journals indexed in Scopus and those recognized by UGC Care. Dr. Sanjeev's role in these diverse capacities demonstrates his dedication to advancing academic quality, promoting interdisciplinary research, and contributing to the field of marketing through both teaching and research.

Prof. Manu Sharma
(Co-Investigator)

Dr. Manu Sharma, Professor at University Institute of Engineering & Technology Panjab University, Chandigarh is the Co- Investigator of DST-Centre for Policy Research, Panjab University, Chandigarh. He holds a Doctorate degree from IIT Delhi in Computer Science. He is associate Professor at University institute of engineering & technology Panjab University. His main area of work are Active vibration control, structural dynamics, and control. He has over 11 years of teaching and research experience. He has many publications papers, reports, books, etc. in reputed national and International journals. Carrier honors includes second prize in the national paper contest "VI Mantra 2002" (NI instruments worth $2000), receiving Labview 10 user license and accessories from National Instruments (Rs. 7.5 Lakhs), and serving on the elite 'Advisory Council' of LG Electronics to help transform business in India.

Asst. Prof. Deepak B. Salunke
(Co-Investigator)

Dr. Deepak is currently serving as an Assistant Professor at NIPER, Mohali and was an Assistant Professor in the Department of Chemistry at Panjab University, Chandigarh. He also serves as the Coordinator of the National Interdisciplinary Centre of Vaccine, Immunotherapeutic, and Antimicrobials at the university. He has completed his Master of Science (M.Sc.) degree from Ahmednagar College in Pune and earned his Doctorate degree from the National Chemical Laboratory in Pune, India. Additionally, Dr. Deepak is indirectly associated with the DST-Centre for Policy Research (DST-CPR) at Panjab University, where he contributes as a Co-Investigator. His research is primarily focused on the design, synthesis, and structure-activity relationships (SAR) of novel pharmaceutically interesting scaffolds. He specializes in combinatorial parallel synthesis and diversity-oriented synthesis of organic small molecules, aiming to develop innovative methodologies for important organic transformations. He is deeply committed to applying his chemistry skills to develop therapies and vaccines against major public health pathogens, including malaria, leishmania, and tuberculosis. He envisions utilizing his scientific expertise and knowledge to establish a Centre of Research Excellence in Medicinal Chemistry. Through this center, Dr. Deepak aims to address key national issues, contributing significantly to the development of India. His dedication to research and innovation highlights his commitment to advancing public health and the field of medicinal chemistry.

Prof. Jagdeep Kaur,
(For Support and Guidance)

Dr. Jagdeep Kaur is a Distinguished Professor in the Department of Biotechnology at Panjab University, specializing in Cell Biology, Microbial Biotechnology, and Protein Biochemistry. She earned her Ph.D. in Zoology from Banaras Hindu University and has a teaching career spanning 30 years, during which she has taught courses such as Introduction to Biotechnology, Molecular Biology, Genetic Engineering, Enzymology, Biochemistry, Animal Biotechnology, and Advanced Molecular Biology. Her research has been funded by prestigious agencies like DBT, UGC, CSIR, ICMR, and DST, allowing her to make significant contributions to her fields of expertise. As a mentor, she has supervised 43 Ph.D. students and 62 M.Sc. students, fostering the development of skilled scientists. Dr. Kaur has authored 170 research publications, widely recognized and respected within the scientific community. She also provides support and guidance to the DST-Centre for Policy Research at Panjab University.

Prof. (Dr.) Jyoti Rattan
(For Support and Guidance)

Prof. (Dr.) Jyoti Rattan, provides support and guidance to DST-Centre for Policy Research, PU, Chandigarh. She is a Professor in the Department of Laws, PU, Chandigarh. She has expertise in administrative sciences. She has authored and co-authored several national and international publications and also working as a reviewer for reputed professional journals. She has an active association with different societies and academies around the world. She has made her mark in the scientific community with the contributions and widely recognition from honourable subject experts around the world. Her major research interest involves International Law, Human Rights of Women: International Instruments and their Assimilation in Indian Legal System.

Asst. Prof (Dr.) Santosh Kumar Upadhyay
(For Support and Guidance)

Asst. Prof (Dr.) Santosh Kumar Upadhyay is Assistant Professor, Department of Botany, Panjab University, Chandigarh. Dr. Upadhyay provides support and guidance to DST-Centre for Policy Research, PU, Chandigarh. He specialized in agricultural biotechnology. An INSA associate fellow, Dr. Kumar has been contributing to Scientific Social Responsibility (SSR). Featured in the top 2% of world scientists in the list of Stanford University, he is instrumental in guiding IPRs research at DST-CPR, PU.

9.2. SCIENTIFIC STAFF

Dr. Ravneet Kaur
(Project Scientist –III)

Dr. Ravneet Kaur, is providing evidence-based insights and recommendations on science and technology (STI) policies. Additionally, she is also responsible for capacity-building initiatives aimed at enhancing the understanding of the role of STI in the academic and industrial sectors. Dr. Kaur's career spans diverse roles in research, industry, and teaching across prominent institutions globally. She has secured several prestigious grants and fellowships, including Marie Curie Post-Doctoral Fellowship, NSERC Visiting Scientist Fellowship, Canada, SERB Young Scientist Fellowship, DST Women Scientist Fellowship, and other fellowships.

Dr. Sandeep Singh
(Project Scientist –III)

Dr. Sandeep Singh, has done PhD in Supramolecular Chemistry from IIT Roorkee. Postdoctoral in In-Situ Crystallization of APIs from IISER Mohali. He has worked with Chemical Engineering Department UICET, Panjab University Chandigarh as Research Scientist under DST-PURSE Grant. Senior Demonstrator in CSIC & Experimental Medicine Department of PGIMER Chandigarh. He also served as Assistant Professor in the Chemical Science Department of SGGSWU, Fatehgarh Sahib, Punjab & SGGSC, Sector -26 Chandigarh. He has many publications in reputed peer-reviewed National and International Journals. Presently at DST-CPR, he is working in the domain of Industry-Academia Interlinkages for HEIs & evidence-based studies for policy recommendation.

Dr. Rupali Jandrotia
(Project Scientist –II)

Dr. Rupali Jandrotia, focuses on identifying gaps for stimulation of private sector investment in R&D and suggests changes in the policy environment. Dr. Jandrotia received a Master's degree in Environmental Sciences from Panjab University, Chandigarh, where she was awarded a Gold Medal for academic excellence. Dr. Jandrotia holds a Ph.D. in the same discipline from CSIR-IHBT, Palampur. Dr. Jandrotia completed her post-doctoral research at the Department of Botany, Panjab University, Chandigarh under DHR Young Scientist fellowships by the Department of Health Research, GoI. Thereafter she worked at the Department of Environment, Chandigarh Administration, where she independently handled the Climate Change Cell of the administration. She was involved in reinforcing the Department's goal to develop and strengthen the Climate Change Cell in Chandigarh, aligning with broader national strategies to address climate change through research, technology, and innovation. She actively contributed to the development of the State Action Plan on Climate Change (SAPCC) for U.T. Chandigarh. With extensive research experience spanning molecular biology, plant physiology, stress tolerance mechanisms in plants, and climate change, Dr. Jandrotia has published numerous high-impact research papers in reputed journals.

Dr. Sukhdeep Kaur
(Project Scientist –II)

Dr. Sukhdeep Kaur, a physicist with a Ph.D. in snow avalanche detection. Her expertise lies in interdisciplinary fields such as Physics (Subfields: Solid state /Applied/ Electronics/ Experimental/ Engineering/ Computational Physics), Statistics, Geophysical Instrumentation and Geoinformatics, Research Data Management, Cryosphere, snow avalanche research, and Computer languages. A data analyst with a sound knowledge of Origin, Python, R, and MATLAB. She is efficient in handling Data repositories, Data frames, Data visualization tools, and Kafka. Her recent added expertise is in AI & Digital Policy and climate leadership. Her research area is Disaster Risk Management (DRM); Science, Technology, and Innovation (STI) Policy Research; Public Private Partnerships (PPPs) led R&D; Strengthen Industry-Academia interlinkages for socioeconomic acceleration; Technology Transfer Mapping to strengthen Innovation management. She has contributed to national and international projects, catering to strengthening the innovation ecosystem through STI policy research; Accelerating the R&D ecosystem through PPPs, Citizen Science, Promoting Gender Equality for DRM, Promoting Open Science and Scientific Conduct Research, Research Designs and Ethics, Snow Avalanche Research, Science Communication, and Science Diplomacy She is accepted as a member of various societies such as International Society for Digital Earth (ISDE) WG1- Science and Technology for Digital Earth. CODATA-DETG, Research Data Alliance (RDA), The Women and Gender Constituency (WGC), International Organization for Academic and Scientific Development (IOASD), and the International Association for Promoting Geoethics (IAPG), etc.

Dr. Deepika Verma
(Project Scientist –I)

Dr. Deepika Verma, contributing towards studying the current intellectual property ecosystem in the Higher Education Institutes and identifying the barriers in technology commercialization, and further based on evidence, preparing policy documents for enhancing Triple Helix Collaborations for innovations. Dr. Verma did her PhD from the Department of Biotechnology, Panjab University, and holds extensive research experience in different scientific areas, including molecular technology, bioinformatics, and stress tolerance mechanism in plants, demonstrated through a good number of publications in peer-reviewed national and international journals. Prior to her present position, Dr. Verma worked as an Assistant Professor (Guest Faculty) at the Department of Biotechnology, Panjab University, providing her expertise in Recombinant DNA Technology, Plant Biotechnology, IPR, and Biosafety to graduate students. Subsequently, she joined as a Research Associate in the DBT-sponsored project at the Department of Biotechnology, Panjab University.

Dr. Aditi Chauhan
(DST-STI Fellow)

Dr. Aditi Chauhan, is currently serving as a DST-STI Fellow affiliated with the Indian Institute of Science (IISc), Bangalore. She is based at the DST Center for Policy Research (CPR), Panjab University, Chandigarh. Prior to this role, she served as a Research Officer at the DPIIT-IPR Chair, PU Chandigarh, for over three years. Dr. Chauhan completed her B.Sc. in Science and M.Sc. in Microbiology at CSK Krishi Vishwavidyalaya, Palampur, where she excelled as the university topper in both programs. Recognizing her exceptional academic achievements, she was awarded a Gold Medal and the prestigious DST-INSPIRE Fellowship by the Department of Science and Technology, Government of India. In 2016, she was honored with the Academic Excellence Award by Kaptan Singh Solanki, then Governor of Punjab and Haryana. Dr. Chauhan earned her Ph.D. in Microbiology from Panjab University, Chandigarh. Her doctoral research received international acclaim, being ranked among the top 100 works at the 18th World Congress on Gynecological Endocrinology in Florence, Italy, in 2018. She also secured the 2nd Best Poster Award at the 35th Annual Conference of the Indian Association of Biomedical Scientists. To date, she has authored more than 30 research publications in national and international journals. Her primary research interests lie in Science, Technology, and Innovation Policy; Intellectual Property Rights; and Technology Transfer and Commercialization.

Nishika
(Project Associate-I)

Miss Nishika, masters in Microbiology from Shoolini University, Solan. During her academic journey, she also gained stimulating internship experience in design patent filing, patent search, and first examination report filing (FER) in the field of IPR. Nishika influences her scientific background to contribute to the dynamic field of policy research and plays a crucial role in conducting research and analyzing data in the field of Public-Private Partnerships (PPPs), contributing significantly to the development of innovative policy solutions and the development of a new country-specific model for the promotion of PPP for R&D.

Manraj Singh
(Project Associate-I)

Mr. Manraj Singh, holds a Master's degree in Chemistry from Panjab University, Chandigarh. He is contributing in fostering Industry-Academia interlinkages to develop innovative policy solutions that bridge the gap between academic research and industrial applications. Additionally, he contributes to analyzing policy frameworks related to Sustainable Development Goal 9 (SDG 9). His efforts include mapping the needs of industry and academia in science, technology, and innovation (STI) through a comprehensive, questionnaire-based feedback study involving various industries and higher education institutions (HEIs) across India.

Naveen
(Project Associate-I)

Mr. Naveen, Masters in Biophysics from Panjab University, Chandigarh. He has worked as a Junior Demonstrator at, CSIC Department, PGIMER Chandigarh. He is working in the domain of IPR, Assessment and identification of patenting trends in HEIs, and Mapping IP filing, technology transfer and commercialization aspects of HEIs.

Roopak Kumar
(Project Associate-I)

Mr. Roopak Kumar holds a postgraduate degree in Integrated Biotechnology and Human Research Management from Gautam Buddha University, Greater Noida, Uttar Pradesh. He is currently working as a Project Associate on the initiative *"Strengthening Science, Technology and Innovation-led Public-Private Partnerships and the Intellectual Property Ecosystem in India."* His work primarily focuses on science policy research, where he plays a significant role in shaping national and international STI efforts. Mr. Kumar has contributed to the development and administration of the STIP (Science, Technology, and Innovation Policy) Compass Questionnaire, supported OECD data collection on resources devoted to R&D, and participated in activities related to the UNESCO Recommendation on Science and Scientific Researchers. He has also played an important role in the formation of an online repository of research publications and patents of all Centres for Policy Research (CPRs) supported by the Department of Science and Technology (DST).

9.3. ADMINISTRATIVE STAFF

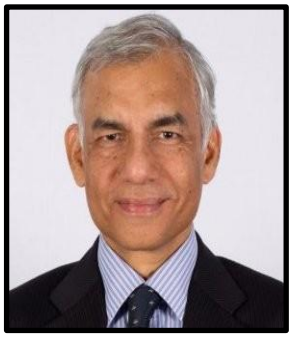
Ms. Ruchika
(Secretarial Staff/ Data Entry Operator)

Ms. Ruchika, handles a wide range of administrative tasks, including managing internal and external communications, and maintaining office records. She ensures office operations run smoothly, providing essential support to DST-CPR, PU.

Mr. Ravinder Kumar
(Helper)

Mr. Ravinder, plays a crucial role in supporting daily operations and ensuring the smooth functioning of the office. Perform basic office tasks, deliver messages, assist with running errands, as well as ensure the cleanliness and hygiene of the centre.

10. TESTIMONIALS



Dr. Pushpendra Rai, IAS (R)
International IP Advisor and
Former Director, World Intellectual Property Organization

Science, Technology and Innovation (STIP) play a pivotal role in creating an ecosystem conducive to the scientific and technological progress of India. The DST-Centre for Policy Research, Panjab University, Chandigarh, working in Policy formulation and commercialization in Intellectual Property (IP), Patent Trust system, etc., has made significant contributions in this field, especially by conducting evidence-based studies. I wish the vibrant and talented team of DST-CPR great success in their future endeavours.

Dr. Arvind C. Ranade
Director, National Innovation Foundation, India

Industry–academia partnerships play a pivotal role in advancing Science, Technology, and Innovation in India by fostering a dynamic ecosystem that bridges theoretical knowledge with real-world application. These collaborations are instrumental for translating research into impactful products, services, and solutions, contributing to national growth and development. The DST-CPR, Panjab University, Chandigarh, is making commendable strides through its evidence-based studies in the domain of industry–academia collaboration. The Centre's active engagement in policy formulation and its efforts to develop innovative and effective models in this critical area are truly noteworthy. My heartfelt congratulations and best wishes to the entire DST-CPR team for their dedication and visionary contributions to strengthening the industry–academia interface in India.

Dr. Jatinder Kaur Arora,
Advisor, Northern Region Science & Technology Cluster; Former Executive Director, Punjab State Council for Science and Technology-cum-Member Secretary, Punjab Biodiversity Board

DST's Centre for Policy Research at Panjab University has been working zealously to generate policy inputs on science, technology and innovation. The Centre's initiatives for bringing the industry, R&D institutions and other relevant stakeholders together are also laudable. I wish the team of DST-CPR, PU all success for its future endeavors.

Er. Pritpal Singh,
Executive Director,
Punjab State Council for Science & Technology,
Sector 26, Chandigarh

The world is witnessing a wave of technological transformation across industries and societies. Pressing global challenges call for need-based research, multi-stakeholder collaboration, enhanced private investment, and accelerated adoption of green and inclusive technologies. To advance science, technology & innovation (STI)-driven socio-economic development, it is imperative to map challenges, research opportunities, technological solutions, patents and other critical STI data. The efforts of the DST-Centre for Policy Research at Panjab University in steering dialogues around Public-Private Partnerships in the R&D-led STI Ecosystem are both timely and commendable. I appreciate their role in shaping evidence-based policy and fostering innovation-led, sustainable economic growth.

DST-CENTRE FOR POLICY RESEARCH
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dstprc2014@pu.ac.in

Phone no.0172-2534124

Official Website: cpr.puchd.ac.in

DST-Centre for Policy Research (CPR)

Guru Teg Bahadur Bhawan, Panjab University, Sector 14, Chandigarh, 160014