INTERDISCIPLINARY RESEARCH

Measures · Facilities · Support · Promotion

109	28	565	12
ISR Papers	Patents	Conclave Projects	Centres of Excellence

Reference Period: Calendar Year 2024 (January – December 2024)

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01 EXECUTIVE SUMMARY

Ganpat University (GUNI), a NAAC 'A' Grade accredited institution (CGPA 3.11, February 2024), maintains a comprehensive institutional ecosystem dedicated to fostering, measuring, supporting, and recognising interdisciplinary science research across Physical Sciences, Life Sciences, Engineering, and Computer Science. This document presents verified evidence from Calendar Year 2024 across four pillars of institutional commitment.

109	**1,119**	**39.1%**
ISR Scopus Papers	Citations on ISR Papers	ISR Share of Output

28	**565**	**12**
Cross-Disciplinary Patents	Research Conclave Projects	Centres of Excellence

INR 12.14 Cr	**5**	**100+**
Research Income (2024)	National Ranks at Shodh Shikhar	Awards & Recognitions

Pillar	Key Evidence (2024)	Institutional Mechanism
1. Measures of Success	109 ISR papers | 1,119 citations | 28 patents | 565 Conclave projects | 5 national ranks	8 measurement frameworks: Scopus, SSRIP/WSRIP, Patent, KPI, Conclave, Shodh Shikhar, Green Energy Challenge, External Grants
2. Physical Facilities	12 CoEs | 10+ shared labs | 193,143 sq.mt campus | Incubation Centre (203 start-ups)	GUNI-CARS shared infrastructure, CoEs, HPC, Incubation Centre
3. Administrative Support	9 CARS schemes | 14+ MOUs | 113 events | 4 journals | INR 12.14 Cr income	GUNI-CARS, IQAC, R&D Directorate, Cross-faculty coordination
4. Career Promotion	Tiered incentives (Q1: Rs.15K) | Patent fees + cash | 80:20 commercialisation | President & DG Award	Financial Assistance Policy (amended), IQAC, CARS

02 INSTITUTIONAL CONTEXT

About Ganpat University

Ganpat University was established under the Gujarat Private Universities Act, 2005. The University operates across multiple faculties: Faculty of Engineering and Technology (FOET), Faculty of Computer Applications (FCA), Faculty of Applied Agricultural Sciences (FAAS), Faculty of Science (FOS), Faculty of Pharmacy (FOP), Faculty of Management Studies (FMS), Faculty of Social Sciences & Humanities (FSSH), Faculty of Architecture, Design & Planning (FADP), Faculty of Nursing (FON) and Faculty of Health and Allied Sciences (FHAS). This multi-faculty structure provides a natural ecosystem for interdisciplinary research collaboration.

Accreditations & Recognitions (2024)

Recognition	Detail
NAAC Accreditation	A Grade with CGPA 3.11 (February 2024)
GSIRF Rating	5-Star Rating under Gujarat State Institutional Rating Framework (December 2024)
Outlook-ICARE 2024	Ranked 12th among Top State Private Universities in India
QS I-Gauge	Diamond Rating (2025)

ISR Governance Structure

All interdisciplinary research measurement, monitoring, and incentivisation activities are coordinated through GUNI-CARS (Centre for Advanced Research Studies), the University's central multidisciplinary research administration body covering Engineering, Pharmacy, Management, Computer Applications, Sciences, Humanities, Nursing and Health and the IQAC provides an additional institutional quality overlay.

03 MEASURES OF INTERDISCIPLINARY SCIENCE RESEARCH SUCCESS

> **Ganpat University maintains eight integrated measurement frameworks for tracking interdisciplinary science research success across all applicable science disciplines. All were fully operational throughout Calendar Year 2024.**

3.1 Annual Bibliometric Tracking (Scopus/WOS)

The University's primary measure of ISR success is the Annual Scopus Institutional Export, conducted each February by GUNI-CARS.

109	1,119	10.3
ISR Papers (2024)	Total Citations	Avg. Citations/Paper

32	76	19
High-Impact Papers (10+ cites)	Unique Source Journals	Distinct Area Combinations

Five-Year ISR Growth Trajectory

Year	ISR Papers	Total Scopus	ISR %	YoY Growth
2020	22	66	33.3%	—
2021	27	84	32.1%	+22.7%
2022	57	142	40.1%	+111.1%
2023	100	273	36.6%	+75.4%
2024	**109**	279	**39.1%**	+9.0%

64.2% of GUNI's 2024 ISR papers cross four or more disciplines, demonstrating deeply interdisciplinary work. The top area combination is Nanotechnology + Life Sciences + Chemistry + Pharmaceutical Sciences (30.3%), followed by AI/ML + Life Sciences + CS/Engineering (4.6%).

Disciplines Breadth Analysis

Disciplines Crossed per Paper	Papers	Share
4 disciplines (most complex ISR)	**70**	**64.2%**
3 disciplines	14	12.8%
2 disciplines	17	15.6%
Cross-disciplinary (within broad area)	8	7.3%

3.2 Student Research Internship Programmes (SSRIP / WSRIP)

Two formal student research internship programmes serve as direct institutional measures of ISR success, with ISR criteria embedded into project evaluation and award selection.

Programme	Cycle	ISR Projects	Faculties	Key Disciplines Crossed
WSRIP	2023–24	53	FOET, FCA, FAAS, FOS	AI/ML + Biomedical; Nano + Chemistry + Pharma; Agri + IoT
SSRIP	2024	19	FOET, FCA, FAAS	Environmental + Remote Sensing; AI + Accessibility; EV + Renewable
WSRIP	2024–25	25	FOET, FCA, FAAS, FOS	Nano + Environmental; Biomedical + AI; Food Sci + Clinical Health

> **SSRIP 2024: All 4 prize-winning projects were interdisciplinary — 1st: EZPARK Autonomous Parking (AI+Drone+CS+Eng); 2nd: Raspberry Pi for Visually Impaired (CS+Eng+Clinical); 3rd: Land Use/Urban Heat (PhysSci+EnvSci+Eng); 3rd: EV Charger (Eng+PhysSci)**

3.3 External Grant Success

Funding Agency	Amount	ISR Relevance
ISRO (Space Applications Centre)	**INR 20.5 Lakhs**	Spatio-temporal ice sheet investigation (Eng + Environmental + Physical Sci)
DBT / GSBTM	**INR 33 Lakhs**	Biotechnology research (Life Sciences + Chemistry)
DST / GUJCOST	**INR 31.1 Lakhs**	Science & technology grants (Physical Sciences + Engineering)
Erasmus+ (EU)	**EUR 61,692 (3 Yr)**	Inclusive Quality Education (3 Faculties: FADP + FMS + FOET)
AICTE + Min. of Housing	**INR 4 Lakhs**	Heritage conservation (Engineering + Social Sciences)
TOTAL	**INR 1.38 Cr + EUR 61,692**	**8 ISR-qualifying externally funded projects across 6 agency types**

3.4 Patent Portfolio — Translational ISR Impact

28	77
Patents Filed/Granted (2024)	NIRF Window Patents (2022–24)

Faculty	Patents	Status	ISR Combinations
Faculty of Pharmacy	9	Published/Granted	Nano + Life Sci + Chemistry + Pharma
Faculty of Computer Applications	9	Published/Granted	AI/ML + IoT + Engineering + Health
Faculty of Engineering & Technology	5	Published/Granted	Engineering + AI + Computer Science
Faculty of Science	5	Published/Granted	Nano + Environmental + Physical Sci

3.5 Institutional KPI Dashboard

KPI Metric	2024	2023
Total Scopus/WOS/UGC Papers	**339**	205
ISR-Qualifying Publications	**109**	100
Conference Papers Presented	**243**	173
Ph.D. Degrees Awarded	22	34
Sponsored Research (INR)	**6.27 Crore**	4.2 Crore
Consultancy Projects (INR)	**5.87 Crore**	5.4 Crore
Patents Published/Granted	**28**	16
Conferences/Workshops Organised	**113**	190
Awards/Recognitions for Research	**100+**	137

3.6 Research Conclave 2024

565	1,400+	7
Projects Assessed	Participants	Faculties Represented

The Research Conclave 2024 (September 26–27, 2024) was the largest cross-disciplinary evaluation in GUNI history, featuring 508+ UG/PG/Diploma projects and 60+ external projects. Chief Guest: Dr. Vipin Kumar Patel, Chief Scientist, National Innovation Foundation – India.

3.7 Shodh Shikhar 2024 — National Competition (Bhopal)

5 national ranks at Shodh Shikhar 2024 — 100% of award-winning projects qualify under ISR criteria:

Award	Student	Project Title	ISR Area
1st Rank	Akhil Dinesh Nair	Medicinal Formulation using Natural Ingredients	Life Sci + Chem + Clinical
2nd Rank	Jehan M. Patel	Gun Drone	Engineering + CS
2nd Rank	Pinank Panchal + Shivam Jani	Sign Language Recognition	CS + Life Sci + Clinical
3rd Rank	Ruchir Nair	Autonomous Robots for Hospital Logistics	Eng + CS + Clinical
3rd Rank	Devarshi Patel + Yash Chauhan	Deep Learning Crowd Detection + Multi-Camera Re-ID	CS + Engineering

3.8 Green Energy Challenge 2.0

A national-level interdisciplinary competition organised by GUNI bringing together students, researchers, and start-ups across solar, wind, biogas, biomass, hydrogen, geothermal, and tidal energy. The challenge featured 12 problem statements spanning engineering, environmental science, physical sciences, and computer science,

with funding up to Rs. 2 Lakhs per team, mentorship by domain experts from IIT Gandhinagar and SPRERI, and entrepreneurship training.

04 PHYSICAL FACILITIES FOR INTERDISCIPLINARY SCIENCE RESEARCH

> **Ganpat University provides dedicated, shared physical facilities specifically designed for interdisciplinary science research teams across all applicable disciplines. All were fully operational throughout Calendar Year 2024.**

193,143	12	1 GBPS+
Sq.Mt Built-Up Area	Centres of Excellence	Campus Wi-Fi Bandwidth

4.1 Core Shared Research Facilities

Facility	Host Discipline	Cross-Disciplinary Use	Verified ISR Usage
FTIR Spectrometer	Chemistry / Pharma	Materials, Nano, Environmental, Biomedical	WSRIP nanoparticle & biofuel projects
XRD (X-Ray Diffraction)	Physical Sciences	Nano, Materials, Chemistry, Earth Sci	AgNP biogenic synthesis project
SEM / TEM	Materials Eng.	Nano, Life Sciences, Chemistry	Nano + pharma + materials projects
NMR Spectrometer	Chemistry	Pharma, Biomedical, Life Sciences	Drug delivery & natural products
HPLC System	Pharma Sciences	Chemistry, Life Sci, Food Sci, Clinical	Biodiesel, stability, bioassay
High Performance Computing	CS / AI	Bioinformatics, Comp. Chem, ML	QSAR, molecular docking, disease detection
Biotech / Microbiology Labs	Life Sciences	Pharma, Environmental, Agricultural	Bioassay, antimicrobial, bioremediation
Agricultural Research Facilities	Agriculture	Food Sci, Environmental, Biotech	Water hyacinth, microgreens, wheat

Additional specialised infrastructure includes: FDA-approved Solid & Liquid Formulation Manufacturing Plant, Laboratory for Nanotechnology Research, Drug Design & Synthesis Lab, Cancer Cell Line & Genetic Engineering Lab, Advanced Unconventional Manufacturing Lab, Medicinal Garden, Herbal Drug Museum, and Bio-techno Lab with advanced instrumentation.

4.2 Centres of Excellence (12 Active)

Centre of Excellence	Partner / Sponsor	Disciplines Served
National Additive Manufacturing Centre-West	Ministry of E&IT, GoI	Eng + Physical Sci + Life Sci (Biomedical)

Japan-India Institute for Manufacturing	Maruti Suzuki	Engineering + Physical Sciences
Bosch Rexroth CoE in Automation	Bosch Rexroth Group	Engineering + CS + Robotics
Advanced Tech Centre for Next-Gen Networks (5G+)	Institutional + Industry	CS + Engineering + Physical Sci
FICSI-AAK-GUNI CoE for Choco-Bakery	FICSI + AAK India	Life Sci + Physical Sci + Eng
National Centre for Aerospace & Aviation	Aerospace & Aviation SSC	Eng + Physical Sci + CS
RCPSDC National Centre	RCPSDC / Industry	Physical Sci + Eng + Life Sci
National Centre for Electronics (ESSCI)	ESSCI / Govt. of India	Eng + Physical Sci + CS
Energy Innovation Centre	CARS seed: INR 7.5L	Renewable Energy + Physical Sci + Eng
Centre for Entrepreneurship	GoG Approved Nodal Centre	Eng + CS + Social Sciences
360° Bridge Navigation Simulator	Maritime Industry	Engineering + CS + Physics
NSDC International Skill Migration Centre	NSDC International	Eng + CS + Social Sciences

4.3 Incubation Centre — Innovation Infrastructure

203	**847**	**62**
Start-ups Incubated	Jobs Created	IPR Filings by Start-ups

The GUNI Incubation Centre (est. 2016), a Government of Gujarat approved Nodal Centre, provides co-working space for 200+ innovators, FAB Lab, Tinkering Lab, VR Experimental Lab, and 3D Printing Lab. It has raised Rs. 2.7 Crore in free funding and Rs. 10.05 Crore in private funding, with Rs. 5.0 Crore venture fund from Ganpat Biznovation Pvt. Ltd. Under SSIP 2.0, the Government of Gujarat sanctioned Rs. 87.40 lakhs.

05 ADMINISTRATIVE SUPPORT FOR INTERDISCIPLINARY SCIENCE RESEARCH

> **GUNI-CARS, IQAC, and the R&D Directorate provide comprehensive dedicated administrative support for interdisciplinary science research teams. All structures were fully operational throughout Calendar Year 2024.**

5.1 GUNI-CARS Administrative Schemes

Scheme	Description
National Conference Support	Travel grants for faculty and students at interdisciplinary conferences in India
International Conference Support	Full travel support for faculty at international interdisciplinary events abroad
Publication Support	Financial assistance for Scopus/WOS papers, book chapters, monographs, patents
Event Organisation Grants	Grants for interdisciplinary events — 113 conferences/workshops in 2024
Minor Research Project (MRP)	Seed funding up to INR 1 Lakh/project (1-year) for cross-disciplinary pilots
Major Research Project (MRP)	Up to INR 3 Lakhs/project (3-year) — 7 active projects in 2024
Consultancy Work Scheme	Facilitation of industry-consultancy engagements for cross-sector ISR projects
Ph.D. Fee Waiver Scheme	Tuition waivers for doctoral researchers in interdisciplinary programmes — 22 completions in 2024
IPR Policy	100% patent filing fees borne by University; 80:20 commercialisation revenue sharing

Total research income (CARS-administered, 2024): INR 12.14 Crore (Sponsored + Consultancy) + INR 1.38 Crore + EUR 61,692 external grants.

5.2 MOU & Industry Partnerships (14+ in 2024)

Key partnerships include: GEER Foundation (Environmental + Life Sci), Kaynes Semicon (Semiconductor + Eng + CS), Emcure Pharmaceuticals (Pharma + Biomedical Eng), Torrens University Australia, University of San Diego USA, University of Fujairah UAE, FICSI & AAK India (Food Tech CoE), CSIR-CEERI Pilani (Electronics + Eng), SAS India (Analytics Centre), Cybage Khushboo Trust, and Directorate of ICT & e-Governance Gujarat.

5.3 University Research Journals

Journal	Scope	ISSN
University Journal of Research (UJR)	Multi-disciplinary — all faculties	2455-1724
UJRET (Eng. & Technology)	Engineering + Physical Sci + CS	Engineering & Tech
GUJARISSH (Social Sci & Humanities)	Social Sci + Management + Education	2319-8923

GFJMR (Management & Research)	Management + Social Sci + Economics	2229-4651

06 CAREER PROMOTION & RECOGNITION OF INTERDISCIPLINARY RESEARCH

> **Ganpat University has a formal career promotion and incentive system that recognises and rewards interdisciplinary science research, embedded in institutional policy and active throughout Calendar Year 2024.**

6.1 Patent Incentive Policy

Incentive Mechanism	Detail
Patent Filing Fee Coverage	100% of filing, examination & prosecution fees
Internationally Granted Patent	Rs. 50,000 (Rs. 20,000 on publication)
Nationally Granted Patent	Rs. 30,000 (Rs. 10,000 on publication)
Patent Commercialisation Revenue	**Inventor 80% : University 20%**

6.2 Tiered Publication Incentives

The formal 'Guidelines for Financial Incentives Payment Rates' (Amendment 1.9.1) provides:

Publication Category	Cash Incentive
Scopus/WOS — Q1 (Scimago) / A (ABDC)	**Rs. 15,000 per paper**
Scopus/WOS — Q2 (Scimago) / B (ABDC)	**Rs. 10,000 per paper**
Scopus/WOS — Q3/Q4 or C/D (ABDC)	**Rs. 7,000 per paper**
Book — International Publisher (OUP, McGraw Hill)	**Rs. 50,000**
Book — National Publisher (TMH, PHI, SAGE)	**Rs. 30,000**
Book Chapter — International	Rs. 10,000
External Research Grant (10% of grant)	**10% of non-recurring grant to PI team**

Annual caps: 5 original research articles, 5 review articles/book chapters, and 2 books per faculty member per year. The policy covers all constituent institutions, ensuring interdisciplinary publications receive equal recognition.

6.3 Faculty Awards & Recognition (2024)

Faculty Member	Award	ISR Significance

Dr. Swati Patel	Best Thesis Award	Interdisciplinary pharmaceutical research
Dr. Jasmee Patel	Young Academician Award	Life Sciences + Agricultural Sciences
Dr. Suraj Shah	AIMS International Award	Management + quantitative research
Dr. Mahendra Sharma	Outstanding Tech Visionary VC (TechEDU India 2024)	University-wide research leadership
Dr. Mahendra Sharma	Edupreneur of the Year 2024 (SEPC India)	Innovation in education

Additionally, the 'President and DG Award Policy for Excellence in Research' provides annual institutional recognition for outstanding faculty and student contributions. IQAC tracks research activity per faculty member, with ISR output contributing to annual performance assessment. 163 faculty hold Ph.D. qualifications, with 22 Ph.D. degrees awarded and 7 doctoral disciplines available.

07 CONCLUSION

Ganpat University maintains a comprehensive, institutionalised ecosystem for measuring, facilitating, supporting, and promoting interdisciplinary science research across all applicable science disciplines. This ecosystem was fully operational throughout Calendar Year 2024.

109	28	INR 12.14 Cr
ISR Publications	Cross-Disciplinary Patents	Research Income

12	14+	100+
Centres of Excellence	Industry MOUs	Awards & Recognitions

Pillar	2024 Outcome	Mechanism
Measures of Success	109 ISR papers, 1,119 citations, 28 patents, 565 Conclave projects, 5 national ranks	8 integrated frameworks
Physical Facilities	12 CoEs, 10+ shared core instruments, 193,143 sq.mt campus, Incubation (203 start-ups)	Cross-faculty shared access
Administrative Support	9 CARS schemes, 14+ MOUs, 113 events, 4 journals, INR 12.14 Cr	GUNI-CARS, IQAC, R&D
Career Promotion	Tiered incentives (Q1: Rs.15K), patent 80:20, President & DG Award, 100+ awards	Financial Assistance Policy, IQAC

— End of Document —
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