

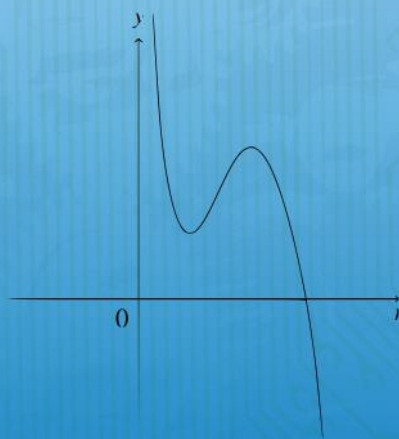
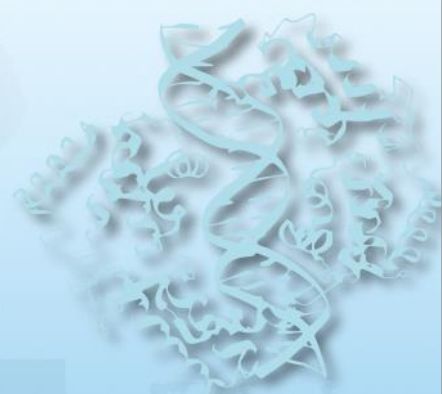


GOA STATE RESEARCH FOUNDATION

(Established by the Government of Goa through Act 8 of 2022)

ANNUAL REPORT

2023-24



Annual Report 2023-24



GOA STATE RESEARCH FOUNDATION

(Established by the Government of Goa through Act 8 of 2022)

Alto-Porvorim, Goa - 403521

Annual Report 2023-24
Goa State Research Foundation

Published in 2024 by:
The Managing Director
Goa State Research Foundation
UG-6, Upper Ground (I) Floor,
Market Complex, Building 'B'
Behind New Hanuman Temple
Swami Vivekananda Road,
Alto-Porvorim, Goa - 403521
Homepage: <https://gsrf.org.in>



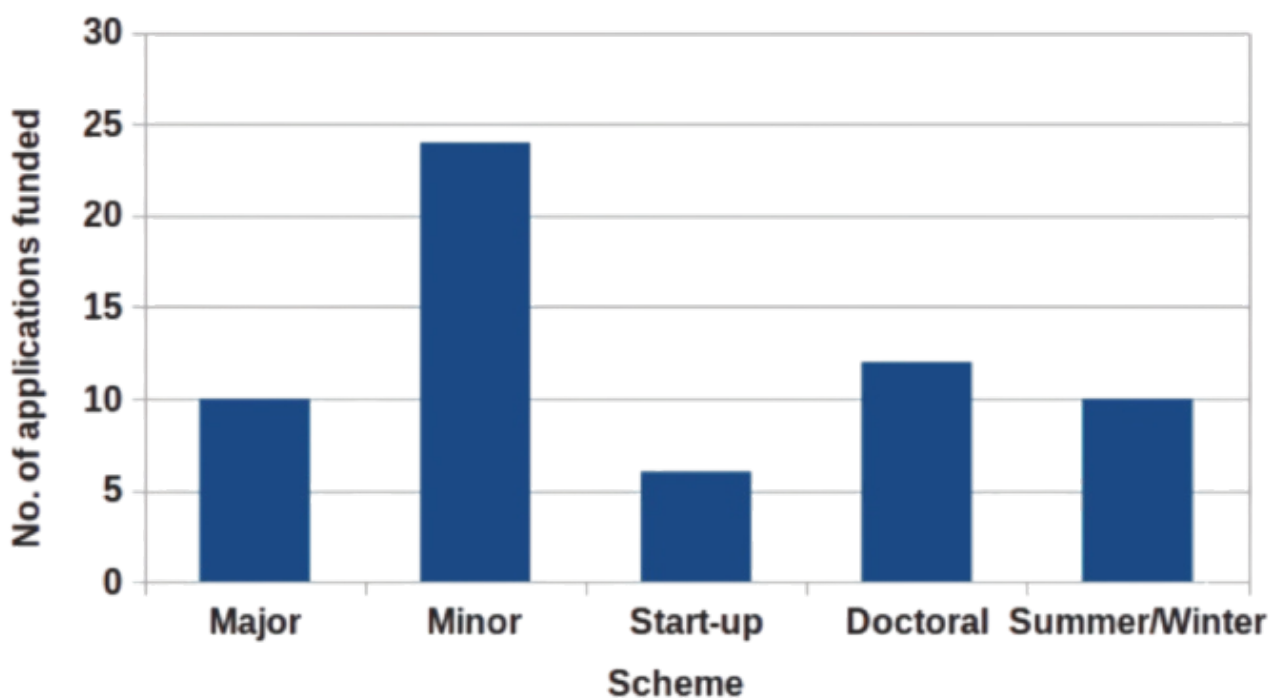
Goa State Research Foundation (GSRF)

Annual Report 2023-24

Executive Summary

General

- * The Government of Goa established the Goa State Research Foundation (GSRF) through a Legislative Act on 17th October 2022.
- * The Chairperson joined on 2nd January 2023.
- * The Governing Council was notified on 30 June 2023.
- * The First Governing Council was held on 21 July 2023, followed by the second and the third in December and March, respectively.
- * The Finance Committee was constituted on 26th July 2023.
- * Joint Director of Accounts joined on deputation on 11th September 2023.
- * The Managing Director joined on 25th September 2023 on a working arrangement.
- * An Associate Professor joined on 11th October 2023 on a working arrangement.
- * Two Assistant Professors (on contract), Accounts officer (on contract) and other supporting staff joined at various times during the year.



Schemes

Six schemes were notified on 14th September 2023, and applications were invited for five schemes.

Training

- * A One-Day Faculty Development Programme (FDP) for non-PhD regular faculty of higher education institutions in Goa was conducted from 8th to 16th June 2023 in collaboration with the Goa State Higher Education Council(GSHEC)/Directorate of Higher Education (DHE).
- * Over 430 participants from 32 disciplines and 34 Colleges/Schools (Goa University) attended the FDP.
- * The Goa State Research Foundation (GSRF), in collaboration with The Goa State Higher Education Council (GSHEC) / Directorate of Higher Education (DHE), conducted a workshop on "Research Grant Writing" from September 5th to 12th, 2023.
- * A total of 216 participants representing 39 subject specialisations participated.
- * Field Workshop for the Under Graduate Biology Students of Govt. College, Quepem, was conducted on 16th December 2023.
- * State-level Workshop on "Understanding Research Methods – MLA 9th Edition" (23rd February 2024) was conducted in collaboration with the Research and Development Cell of Vidya Prabodhini College, Porvorim.

Outreach

- * Twenty-nine awareness sessions were conducted in Colleges and Goa University in collaboration with the Goa State Higher Education Council (GSHEC) and Directorate of Higher Education (DHE).
- * Five Government Departments/Autonomous bodies were visited to discuss their research requirements.

Website

- * Shri Prasad Lolayekar, IAS, Secretary of Education, Government of Goa, launched the GSRF website (gsrf.org.in) on 3rd October 2023.

New Office

- * The Hon. Chief Minister of Goa inaugurated the New Office on 11th March 2024 in the space provided by the Directorate of Higher Education in Building 'B' of the Market Complex of Goa Housing Board, at Alto - Porvorim.
- * GSRF shifted to the new office on 13th March 2024 from SCERT.

CONTENTS

S.No.		TOPIC	PAGE No.
1		Introduction	1
2		Governing Council	2
3		Finance Committee	4
4		People	5
5		Schemes	
	I)	GSRF Major Research Grant Scheme	6
	II)	GSRF Minor Research Grant Scheme	7
	III)	GSRF Doctoral Research Fellowship Scheme	8
	IV)	GSRF Start-up Grant Scheme	9
	V)	GSRF Summer/Winter School Scheme	10
6		Training	
	I)	Faculty Development Programme on 'Enhancing Final Year Student Project' (8th - 16th June 2023)	11
	II)	Workshop on "Research Grant Writing" (5th-12th September 2023)	12
	III)	Field Workshop for the under Graduate Biology Student of Govt. College, Quepem (16th December 2023)	13
	IV)	State-Level Workshop on "Understanding Research Methods - MLA 9th Edition" (23rd February 2024)	14
7		Outreach	
	I)	Visits to Colleges and Goa University	15
	II)	Visits to Government and Autonomous Bodies	16
8		Website	17
9		New Office	18
10		Budget	19
		Annexure I: List of approved GSRF Doctoral Fellowships during the year 2023-24	20
		Annexure II: List of GSRF Major Research projects approved during the year 2023-24	21
		Annexure III: List of funded GSRF Minor Research Projects during the year 2023-24	22
		Annexure IV: List of approved GSRF Research Start-up Scheme during the year 2023-24	24
		Annexure V: List of Summer Schools approved during the year 2023-24	25
		Annexure VI: Scheme-wise funding during FY 2023-24	26

Introduction

The Goa State Research Foundation (GSRF) was established by the Government of Goa, through Act 8 of 2022, on 17th October 2022. The primary focus of the Foundation (through its 23 objects and 33 functions), is the promotion of RESEARCH in the State of Goa in various ways, at all levels, including Schools, Higher Secondary Schools, Colleges and Goa University, besides Research Centres.

The antecedent of GSRF can be traced to the introduction of the National Education Policy (2020) by the Centre and the adoption of the same by various states, including Goa. It is with great pride that it can be said that Goa is the first and only state in India to have established a separate organisation (dedicated to the promotion of research in the state) through legislative assent and separate budgetary allocation. Though the pioneering initiative of the Foundation is still in its nascent stage, it is noteworthy to know that it has made concrete inroads to the promotion of research in Goa, with some of the key ways adopted for the same in 2023-24 being through (i) Major Research Grants; (ii) Minor Research Grants; (iii) Doctoral Fellowships; (iv) Start-up Grants; (v) Summer/Winter School Grants; (vi) Conduct of Workshops etc.

While carrying forward the existing schemes/initiatives into 2024-25 (after duly improvising on each), it will be the endeavour of the GSRF to introduce newer programmes and initiatives as well, like the commencement of the proposed new innovative scheme, *Interdisciplinary Research Interventions Scheme for Local Development (IRIS-LD)*, and *Demystifying research by taking the same to the doorsteps of schools in Goa*.

The functioning of the GSRF is through the support and directions of the Governing Council, with all proposed actions, decisions, and initiatives of the GSRF first placed before the Council for its approval. The Finance Committee of the GSRF also provides guidance on matters, particularly those related to budget and finances.

GSRF Office was initially located on the 2nd Floor of SCERT Building at Porvorim – Goa. Presently, through the aegis of the Directorate of Higher Education, the Government of Goa has provided GSRF separate Office premises [at Upper Ground (1st) Floor, Building ‘B’, Market Complex, Goa Housing Board, Porvorim – Goa], from where it is functioning with effect from March 2024.

GSRF started functioning after the joining of the Chairperson on 2nd January 2023. It became fully functional with the formation of the Governing Council in June 2023 and the joining of the Joint Director Accounts and the Managing Director in September 2023. This Annual Report (2023-24) includes information about the activities of the GSRF from January 2023 to March 2024.

Governing Council

Constitution

- (1) Prof. Malapati K. Janarthanam (Chairperson – GSRF)
- (2) Vice-Chairperson, State Higher Education Council
- (3) Secretary, Education, Government of Goa
- (4) Director of Higher Education, Government of Goa
- (5) Director of Education, Government of Goa
- (6) Prof. Sunil Kumar Singh, Director, CSIR-NIO, Goa
- (7) Dr. Thamban Meloth, Director, NCPOR, Goa
- (8) Dr. Parveen Kumar, Director, CCARI, Goa
- (9) Dr. Shirish Borkar
- (10) Prof. Datta B. Naik
- (11) Dr. Fr. Walter de Sa
- (12) Dr. Manguesh Gauns
- (13) Prof. Bhushan Bhawe
- (14) Prof. Swaroop Joshi
- (15) Prof. Jyoti Pawar
- (16) Dr. Bhanu Manjunath, Director, Syngenta Biosciences Pvt. Ltd., Goa
- (17) Dr. Praveen Khullar, Executive Director, Vergo Pharma Research Laboratories, Goa
- (18) Dr. Kamlesh Pai Fondekar, Head, R&D, Godrej Agrovvet Ltd., Mumbai
- (19) Prof. Savio P. Falleiro (Managing Director – GSRF)

The First Governing Council was notified on June 30, 2023 (Official Gazette - Govt. of Goa; Series II No. 13)

Meeting Details

Three meetings of the Governing Council were held during 2023-24:

- (i) 21st July 2023; (ii) 18th December 2023; and (iii) 7th March 2024.

Decisions

Important decisions taken, including grant of approvals during 2023-24, are as follows:

	Decision taken / Approval granted
Ist Meeting of the first Governing Council (21st July 2023)	<ul style="list-style-type: none"> • Approval given for notifying the following 06 schemes: <ol style="list-style-type: none"> 1. Major Research Grant 2. Minor Research Grant 3. Research Start-up Grant 4. Doctoral Fellowship 5. Post-Doctoral Fellowship 6. Summer-Winter School • Administrative & Academic Staffing Pattern • Delegation of Financial Powers • Powers to Chairman with regards to constitution of various Expert/ Review Committees • Fixation of Sitting Fees • Appointment of Finance Committee (its constitution) • Approval of Logo • Conduct of Workshops
IInd Meeting of the first Governing Council (18th December 2023)	<ul style="list-style-type: none"> • Revised Budget for 2023-24 and Budget Estimates for 2024-25 • Defining the number of applications to be supported under each of the 06 notified GSRF Schemes • Approval to beneficiaries/amounts to Minor Research Grant, Doctoral Fellowship and Research Start-up Grant • Appointment of retired Accounts Officer and UDC • Expenditure towards furnishing of the new Office premises at Market Complex, Goa Housing Board, Porvorim • Fixation of salary of Chairman, and payment of salary arrears
IIIrd Meeting of the first Governing Council (7th March 2024)	<ul style="list-style-type: none"> • Approval to beneficiaries/amounts to Major Research and Summer/ Winter School Grants • New GSRF scheme - 'Interdisciplinary Research Interventions Scheme for Local Development' (IRIS-LD) • Appointment of Chartered Accountant • Appointment of Managing Director as custodian of documents and property of GSRF, and be the signatory of any official document and correspondence for and on behalf of GSRF. • Approval for staffing pattern for appointing Security and Housekeeping Staff in new Office premises • Approval for pursuing on amending the Gazette notifications with regards to quorum for Governing Council meetings and notified schemes of GSRF.

Finance Committee

Constitution

- (1) Prof. Malapati K. Janarthanam (Chairperson – GSRF)
- (2) Prof. Savio P. Falleiro (Managing Director – GSRF)
- (3) Representative of Department of Finance, Government of Goa
- (4) Representative of Directorate of Higher Education, Government of Goa
- (5) Prof. Datta Naik (nominated by the Governing Council from among its members)
- (6) Shri. Rajendra Bhohe - Chartered Accountant (external member)

Constituted through Order No. GSRF/Notifications/16/2023/05, dated 26th July, 2023

Meeting Details

Two meetings of the Finance Committee were held during 2023-24:

- (i) 1st December 2023 and
- (ii) 1st March 2024

Decisions

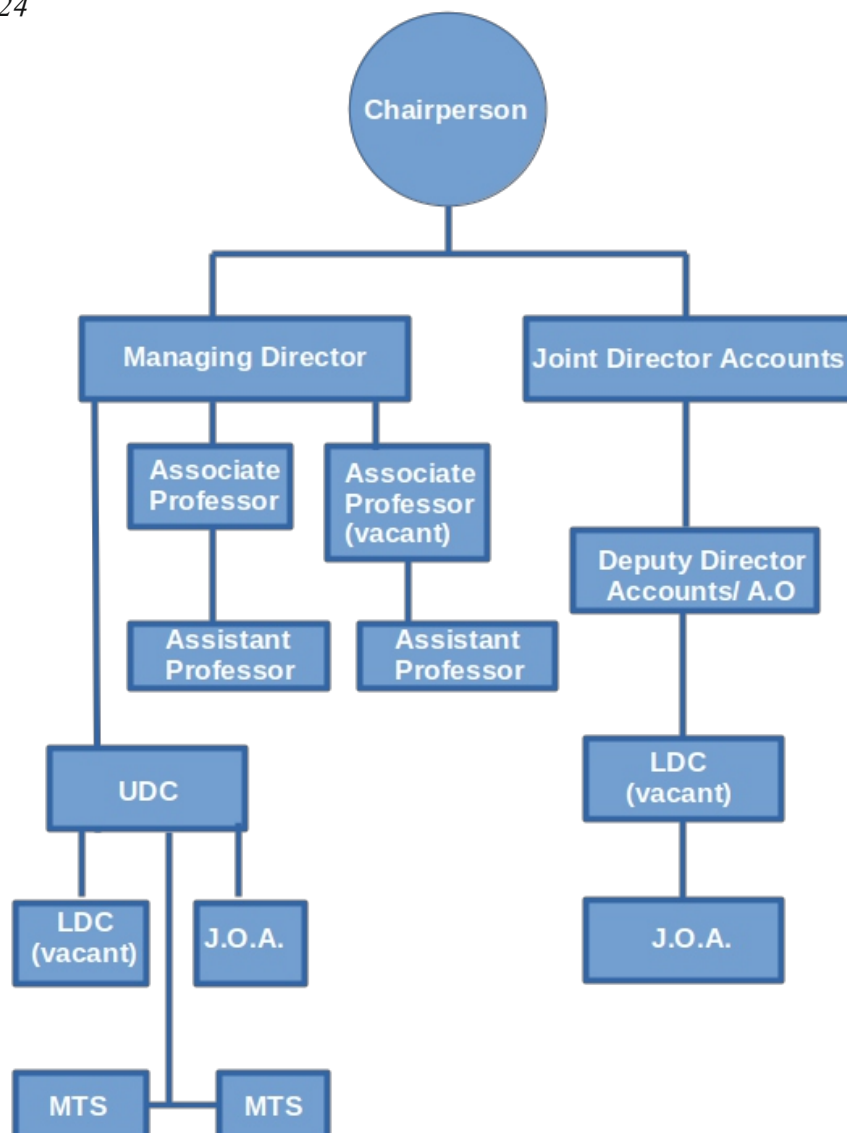
Important decisions taken, including grant in approvals during 2023-24, are as follows:

	Decision taken / Approval granted
Ist Meeting of the Finance Committee (1st December 2023)	<ul style="list-style-type: none">• Approval of the Revised Budget for 2023-24• Approval for estimated expenditures towards establishment of GSRF Office• Salary of Chairman• Ex-post facto approval for expenditures of 2023-24• Expense head for Publicity and Promotion
Iind Meeting of the Finance Committee (1st March 2024)	<ul style="list-style-type: none">• Revised Budget for 2023-24 and Budget estimates for 2024-25• Schemes (cap, allotments and expenses)• Expenditures towards establishment of GSRF Office• Appointment of Chartered Accountant• Travel expenses of Governing Council/Finance Committee members / Experts of Review Committees• Approval for initiating amendments through the consent of the Governing Council to the different GSRF schemes to ensure financial prudence, outcome and accountability• Appointments of Office staff as necessary

People *

1. Prof. Malapati K. Janarthanam, Chairperson
2. Prof. Savio Da Piedade Falleiro, Managing Director (since 25/09/2023)
3. Ms. Liza Fernandes Pereira, Joint Director of Accounts (since 11/09/2023)
4. Dr. Manoj M. Ibrampurkar, Associate Professor (since 11/10/2023)
5. Mr. Balkrishna V. Prabhu Dessai, Accounts Officer (since 02/01/2024)
6. Ms. Jayada Parab, Assistant Professor
7. Ms. Megna B. Gavde, Assistant Professor (up to 01/09/2023)
8. Ms. Rowena Almeida, Assistant Professor (07/09/2023 to 31/10/2023)
9. Mr. Klins Racias Mendes, Assistant Professor (since 27/11/2023)

**as of 31/03/2024*



Schemes

IJ GSRF Major Research Grant Scheme

The GSRF Major Research Grant Scheme has been framed to provide financial assistance to the faculty members of Goa University and its affiliated and autonomous colleges and researchers from Goa Government-funded research institutes. The scheme has been designed to promote excellence in research and innovation in Higher Education Institutions (HEIs) by supporting research in basic, applied, interdisciplinary and multidisciplinary areas on a competitive basis. Research that considers local needs and fosters collaboration with industry and government bodies whose benefits will ultimately reach society is being promoted. A maximum grant of Rs. 25 lakhs per project under STEM category and Rs. 15 lakhs per project under non-STEM category has been earmarked in this scheme.

In the first year of its inception, the scheme received overwhelming support from faculty members and researchers. A total of 70 applications were received in 19 different subject areas, of which 55% were received from faculty members of Goa University, and 45% were from faculty members of affiliated and autonomous colleges.

Two subject experts reviewed each application, most of whom were from recognised educational and research institutes outside Goa. The review process consisted of a 10-point rating system, with each parameter graded on a 10-point scale. Applications that received double positive ratings were further evaluated by a 10-member Expert Committee constituted for the purpose.

The Governing Council of GSRF approved 10 applications under this scheme for financial assistance to the tune of Rs. 176.70 lakhs, of which Rs. 82.55 lakhs have been released as first instalment during the financial year 2023-24. The funded projects include themes that range from pure fundamental sciences, machine learning, phytoremediation, mangrove ecosystems, overseas migration, and therapeutic applications to sports management.



II] GSRF Minor Research Grant Scheme

The GSRF Minor Research Grant Scheme has been formulated to provide financial assistance to the faculty members of Higher Educational Institutions (HEIs) in Goa and foster their research temper. The scope of this scheme includes creating and improving the general research capabilities of the faculty members of Goa University and its affiliated and autonomous colleges and researchers from Goa Government-funded research institutes. Faculty members who wish to cultivate their basic research capacity and initiate their research journey are motivated to apply for this scheme. The scheme has been designed to promote basic research by supporting research in all disciplines and encouraging interdisciplinary research work for the benefit of society. A maximum grant of Rs. 4 lakhs per project under the STEM category and Rs. 3 lakhs per project under the non-STEM category has been earmarked in this scheme.

The scheme received tremendous attention from faculty members and researchers in its first year. A total of 70 applications were received in 19 different subject areas of which 45% were received from the faculty members of the Goa University and 55% were received from the faculty members of affiliated colleges.

Two subject experts were assigned to review each application, most of whom were from recognised educational and research institutes outside Goa. The review process consisted of a 10-point rating system. Reviewed applications with positive ratings were further examined by an Expert Committee constituted for the purpose.

The Governing Council of GSRF approved 30 applications for financial assistance. For various reasons, only 24 applicants took up the projects. Rs. 32.57 lakhs were released as the first instalment during the financial year 2023-24. The funded projects include themes that range from Ayurveda, culture, education, self-employment, rural development, tourism and SMEs to mental health, child rights, natural disasters, pollution, earth resources, nanotechnology and biotechnology.

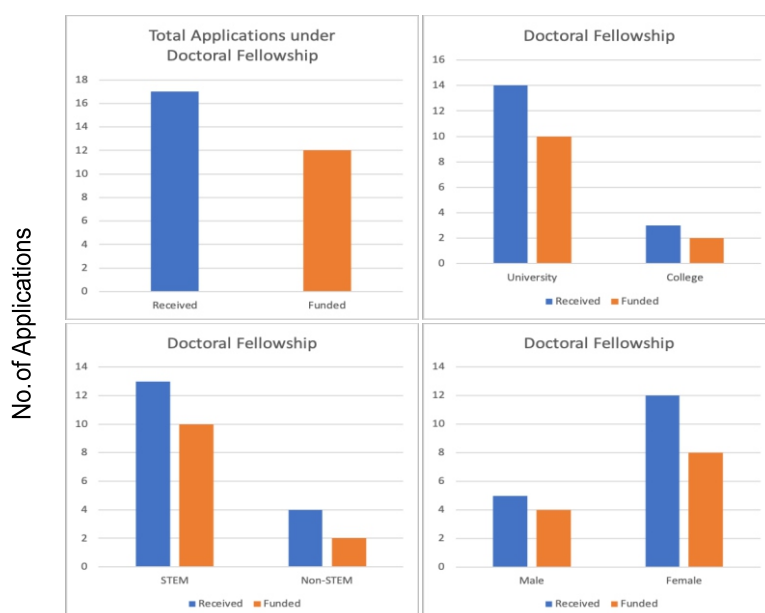


III] GSRF Doctoral Research Fellowship Scheme

The GSRF Doctoral Research Fellowship Scheme has been framed to provide Research Fellowships to the students of the State of Goa pursuing a full-time Doctoral (Ph.D.) programme to carry out research in the chosen discipline. Recognising the need to build research capacity and to grow global research competitiveness, this scheme envisages promoting research in all disciplines and providing financial assistance to young, motivated doctoral students from Goa University, its affiliated or autonomous colleges and Research Centres to undertake research activities in frontier areas leading to their Ph.D. degrees. A candidate selected under this scheme is entitled to receive Rs. 25,000/- per month for 2 years, which is extendable for the third year based on the performance of the doctoral fellow. In addition, a contingency grant of Rs. 25,000/- per annum is paid to all the selected candidates.

During its first year of inception, the scheme received 17 applications from doctoral fellows registered at Goa University, Research Centres and Research Institutes in Goa. The majority of the applications were received from the STEM category, mostly the biological and chemical sciences, while 30% of applications were received from the non-STEM category, which includes Arts, Humanities, Social Sciences and Commerce.

The applications were scrutinised by GSRF and further evaluated by an Expert Committee constituted for Twelve qualifying applications were approved by the Governing Council of the GSRF for financial assistance, of which 67% are female applicants and 33% are male applicants. Rs. 21 lakhs have been released towards the first instalment under this scheme.



IV] GSRF Start-up Grant Scheme

Many faculty members have recently joined HEIs in Goa with research degrees, and some of them have proven research capabilities, which is evident from their research publications. The GSRF Start-up Grant Scheme has been formulated to provide research grants to these newly recruited research-oriented faculty members at the level of Assistant Professors with Ph.D. degrees to establish a research setup and start their independent research without any financial constraints. To help them head start their research activities without any delay, this grant is being provided to them at the beginning of their career. This support is expected to provide an encouraging research ecosystem in every HEI in Goa.

The maximum grant is Rs. 5 lakhs for the faculty members in the field of STEM and Rs. 3 lakhs for the researchers from other disciplines. The tenure for this scheme is two years, and the grant can be utilised to purchase equipment, consumables, travel, etc.

Eight applications were received under this scheme for the financial year 2023-24, four each from faculty members of Goa University and faculty members from the affiliated colleges. Of the total 8 applicants, five are female, and three are male.

The applications were scrutinised by GSRF and further reviewed by the Expert Committee constituted for this purpose. The Governing Council of the GSRF approved six eligible applications for financial support to the tune of Rs. 30 lakhs, of which Rs. 24 lakhs have been sanctioned as the first instalment. Three faculty members from Goa University and three from the affiliated colleges have benefited from this scheme.



VJ GSRF Summer/Winter School Scheme

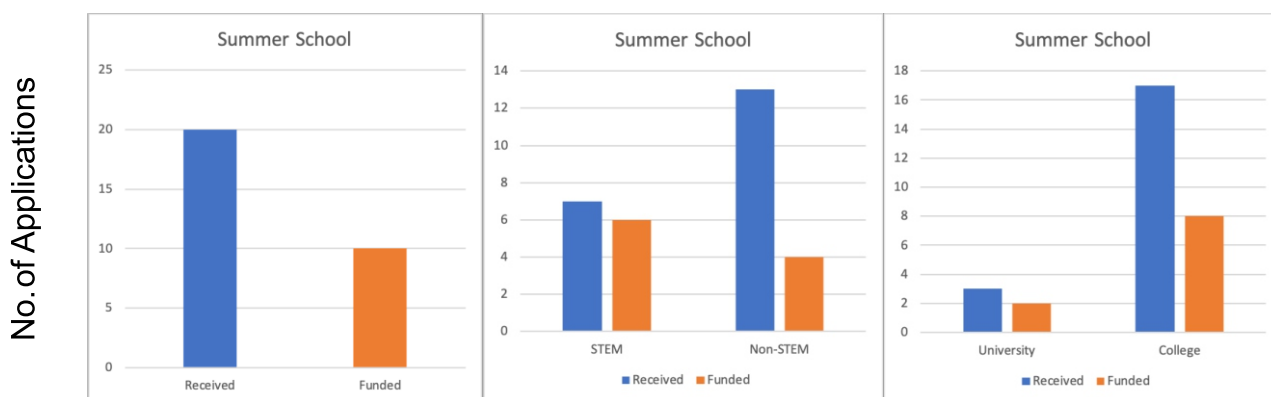
The GSRF Summer/Winter School Scheme has been conceptualised to provide research exposure to school students and teachers from IX to XII standard and undergraduate students. The scheme's objective is to expose these students/teachers to various aspects of research, including ideation through brainstorming, data collection, instrumentation, experimentation, data analysis, hackathons, programming, and exposure to research software. This shall be implemented by utilising laboratory and instrumentation facilities already available in the HEIs in Goa during the summer/winter vacations. The Schools can be multidisciplinary, interdisciplinary or only in identified specialised areas. The scheme is expected to create research interest in students and teachers.

The duration of the school organised under this scheme is expected to be five to ten working days with a maximum support of Rs. 2.5 lakhs per school.

Twenty applications were received under this scheme during the financial year 2023-24, of which 17 applications were received from the affiliated colleges and the remaining three from Goa University. Only 35% of the applications received were under the STEM category, while the remaining 65% were under non-STEM category.

All the 20 applications were scrutinised, and the coordinators of each school had to present their proposal before an Expert Committee constituted for the purpose. The Committee discussed each application's content and proposed budget during the evaluation process.

The Governing Council of the GSRF approved 10 applications received under the scheme, and a total amount of Rs. 13 lakhs was sanctioned to organise the schools during the financial year 2023-24. Two of the ten approved schools have been sanctioned to Goa University, and eight have been sanctioned to the affiliated colleges.



Training

I] Faculty Development Programme on ‘Enhancing Final Year Student Projects’ (8th–16th June 2023)

A One-Day Faculty Development Programme (FDP) for multiple batches of non-PhD regular faculty of Higher Education institutions in Goa was conducted from 8th to 16th June, 2023, on the theme “Enhancing Final Year Student Projects”. The same was organised by the Goa State Research Foundation (GSRF) in collaboration with the Goa State Higher Education Council (GSHEC)/Directorate of Higher Education (DHE), as a follow-up of the feedback received from faculty members across Goa during the ‘outreach’ Stakeholders Meetings conducted by GSRF earlier in the year.

Organised with the assistance of Goa University, the FDP sessions were held in Block-B Seminar Hall and BG-3 classroom, Goa University, Taleigao-Goa. Among others, the FDP provided the participants valuable knowledge, practical exercises to enhance participant’s skills in selecting research topics, and skills in enhancing final-year student projects. Over 430 participants from 32 different disciplines and 34 Colleges/Schools (Goa University) attended the FDP.

Some of the key highlights of the FDP were: (i) Engaging Presentations; (ii) Practical Exercises; (iii) Expert Speakers; (iv) Networking Opportunities; and (v) Interactive Sessions. Resource persons who engaged the sessions included, Prof. M.K Janarthanam; Prof. Vithal Tilvi; Prof. Sharad Sinha; Prof. Niyan Marchon; Prof. K. A. Geetha; Dr. Mahesh Majik; Dr. Avelyno D’Costa; Dr. Pooja Goel; Dr. Narayan Parab; Prof. Aswini Kumar Mishra; and Prof Reena Cheruvalath.

The participants lauded the initiative and recorded that they got exposure to the methodology along with hands-on experience for the first time. It came to the fore that the common errors the TY projects contain skipped the attention of the faculty basically due to lack of awareness; it was voiced at the end of the FDP that these errors were unlikely to be repeated in future projects.



III] Workshop on “Research Grant Writing” (5th-12th September 2023)

The Goa State Research Foundation (GSRF) in collaboration with The Goa State Higher Education Council (GSHEC)/Directorate of Higher Education (DHE), conducted a workshop on "Research Grant Writing" from September 5th to 12th, 2023, at SCERT Building, Porvorim, Goa. The workshop aimed to equip faculty members from various HEIs in Goa (including Goa University, Engineering, Dental and Ayurveda Colleges), with the essential skills required to write compelling research grant proposals. The workshop featured a planned agenda, with daily discipline-wise sessions catering to the diverse interests of the faculty members. A total of 216 participants representing 39 subject specializations participated, including 29 faculty members from Dentistry and 27 from Chemistry.

The workshop was enriched by the presence of 15 experts from renowned institutions across India, including, IIT, BITS, CSIR-NIO, Agharkar Research Institute, Goa Institute of Management, and KLE Dental College. Prof. Shalini Upadhyay (Literature), Dr. Sabiha Hashami (Linguistic), Dr Arfat Ahmad Sofi (Economics), Dr. Solano Jose Savio Da Silva (Social Sciences), Prof Chinmay Behara (Commerce & Financial Services), Prof Anubhav Mishra (Marketing and Management), Prof Sujit Kumar Sahoo (Engineering and Mathematics), Dr Mahadev Gawas (Computer Sciences), Prof Amrita Chatterjee (Chemistry, Pharmacy, Physics), Prof Sumit Biswas (Microbiology and Biotechnology), Dr Rajeev Saraswat (Geology and Geography), Prof Surendra Ghaskadbi (Developmental Biologist), Dr Punnya Angadi Rao (Dentistry, Nursing and Ayurveda) served as resource persons. Prof Vithal Tilvi and Dr Mahesh Majik (both GSHEC), besides Prof M. K. Janarthanam, coordinated the event and conducted sessions on “Do and Don’ts in Grant Writing”.

The Research Grant Writing Workshop provided a valuable platform for faculty members to enhance their grant writing skills and acquire domain-specific knowledge essential for developing competitive research proposals. It fostered a sense of collaboration and inspiration among Goa's academic community. The workshop’s structured approach and expert guidance ensured meaningful engagement and fruitful outcomes for all participants. Such initiatives play a pivotal role in fostering a culture of research excellence and academic advancement within the higher education landscape of Goa.



III] Field Workshop for the Under Graduate Biology Students of Govt. College, Quepem (16th December 2023)

The biodiversity-rich Western Ghats run through the State of Goa, providing ample opportunities for biology students to conduct field research. However, the students at the undergraduate level need to be sufficiently exposed to the field from a research point of view; this exposure will then help motivate them to carry out field-oriented project work that would contribute enormously to science. Keeping this in view, a one-day field workshop was conducted by Goa State Research Foundation (GSRF) in association with Government College, Quepem, Goa, for interested Second-year B.Sc. students with biology subjects on 16/12/2023 in Netravali Wildlife Sanctuary. Dr Pronoy Baidya (Scientific Consultant, Arannya Environment Research Organisation (AERO), Sanquelim Goa), an ecologist with extensive work on biodiversity, and Prof. M K Janarthanam (Chairperson, GSRF), a plant taxonomist, were the resource persons. Twenty-four students, besides a few teachers, attended the workshop under the leadership of Prof. Mehtab Bukhari of Government College, Quepem Goa.



IV] State-level Workshop on "Understanding Research Methods – MLA 9th Edition" (23rd February 2024)

Goa State Research Foundation (GSRF), in collaboration with the Research and Development Cell of Vidya Prabodhini College, Porvorim, Goa, organised a one-day workshop at SCERT Building, Porvorim, on 23rd February 2024, for the teaching faculty and research scholars in the State of Goa, to promote better understanding of research methodology, and especially the protocols of MLA style 9th edition. The workshop was attended by 30 participants from different colleges across Goa and Goa University. The resource persons were: Dr. K Geetha (Professor, Head, Dept. of Humanities and Social Sciences, BITS-Pilani, Goa Campus) and Dr. Palia Pandit (Assistant Professor, Department of English, Dhempe College of Arts and Science, Miramar, Goa).

The workshop was critical for developing research competencies. It was aimed at making researchers familiar with the referencing and general formatting requirements of the MLA guidelines and the different standards for notation that writers following the MLA style are expected to use. The workshop was divided into two parts, namely, (i) Research Methodology in Literature and Cultural Studies and (ii) 9th Edition of MLA Handbook (including use of inclusive language in research, plagiarism, Government of India guidelines, and penalty for indulging in plagiarism).



Outreach

I] Visits to Colleges and Goa University

The Goa State Research Foundation (GSRF) in collaboration with the Goa State Higher Education Council (GSHEC) and Directorate of Higher Education (DHE), held stakeholder meetings with faculty members of Higher Education Institutes of Goa, particularly Colleges and Schools of Goa University, to introduce the objectives of the Foundation, and to seek inputs regarding research infrastructure, facilities and funding, to incorporate the same into provisions after discussions with the Governing Council. The visits and interactions commenced on 1st February 2023 and concluded on 19th April 2023. In all, 29 visits/sessions were successfully conducted with responding Colleges/Schools of Goa University.

Members of GSRF and GSHEC/DHE who participated in the outreach programme included:

- Prof. M.K. Janarthanam, Chairperson, GSRF.
- Prof. Vithal Tilvi, Professor, Research Development & Innovation, GSHEC.
- Prof. Niyan Marchon, Professor of Teaching Learning & Education Technology, GSHEC.
- Dr Mahesh Majik, Associate Professor, Research Development & Innovation, GSHEC.
- Ms. Jayada Parab, Assistant Professor, GSRF.
- Ms. Megna Gavde, Assistant Professor, GSRF.

Besides keeping note of the feedback received for appropriately using the same in the future, one immediate outcome of the outreach initiative was the conduct of a Faculty Development Programme (on commencement of the new academic year 2023-24) for College faculty on how to effectively guide Third Year Project Reports, which was attended by over 430 participants from different disciplines and UG/PG institutions in Goa.



III] Visits to Government and Autonomous Bodies

One of the objectives of the Goa State Research Foundation's (GSRF) is to work with Government Departments and bring Academia, Industries, Government Departments and Society together to promote RESEARCH for everyone's benefit; as the first step, meetings with a few Government Departments/Boards were initiated. Along with the Research, Development and Innovation Cell of the Goa State Higher Education Council (GSHEC), which was part of the meetings and interactions, GSRF had consultations with five Government Departments in 2023-24, namely:

- Department of Tribal Welfare
- Goa State Pollution Control Board
- Department of Fisheries
- Department of Agriculture
- Department of Forests

Discussions with the Departments revolved around diverse areas, including:

- (i) Fellowship support for PhD scholars
- (ii) Supporting research of select faculty members
- (iii) Supporting research projects on appropriate themes
- (iv) Conduct of Third Year Projects on select themes
- (v) Assistance for documentation on listed themes
- (vi) Promoting Research in Schools and Colleges on listed themes through workshops and summer internships
- (vii) Openings for student interns to do their Project work and get appropriately trained

Website

Goa State Research Foundation (GSRF) inaugurated and launched its website (gsrf.org.in) on 3rd October 2023 at the distinguished hands of Shri Prasad Lolayekar, IAS, Secretary of Education, Government of Goa. In his address, he commended the GSRF for its significant growth and contribution in a short period since its establishment. The website provides comprehensive information about the GSRF, its functions and schemes, etc. Applications to various schemes notified by GSRF are also through the website.

Shri Prasad Lolayekar IAS, Secretary (Education), Government of Goa,
unveiled the website of Goa State Research Foundation.



New Office

From its temporary location on 2nd Floor (Library), SCERT Building, Porvorim - Goa, the Office of the Goa State Research Foundation (GSRF), shifted to its new premises at Upper Ground (1st) Floor, Building 'B', Market Complex, Goa Housing Board, Porvorim – Goa. The new premises were inaugurated by the Hon. Chief Minister of Goa, Dr Pramod Sawant, on 11th March 2024, in the distinguished presence of Shri Prasad Lolayekar, IAS (Secretary, Education, Government of Goa), Shri Bhushan Savoikar (Director of Higher Education, Government of Goa), government officials, members of the Governing Council and Finance Committee, distinguished invitees and others. The new premises have separate seating facilities for its officers and staff, a conference room, a waiting room, computer laboratory-related work, storage space, etc. The new premises are under the aegis of the Directorate of Higher Education, Government of Goa.

Hon'ble Chief Minister of Goa Dr Pramod Sawant inaugurated the new office.



Budget *(all figures in Rs./Lakhs)*

		2023-24 Budget Estimates		2024-25 Budget estimates (revised)
Salaries		250.00	50.00	75.00
Schemes		930.00	172.77	399.80
	Doctoral Research Fellowship		21.00	87.75
	Minor Research Grant		32.12	62.10
	Major Research Grant		82.55	159.35
	Research Start-up Grant		24.00	46.00
	Summer/Winter School		13.10	20.00
	Post-Doctoral Fellowship	---	0	24.60
New Schemes		0	0	100.00
Workshops / Seminars / Lectures etc.		50.00	0.29	15.00
Central Instrumentation Facility		200.00	0	5.00
Outsourced Services		---	2.38	28.00
Office infrastructure(incl. electricals, furniture etc.)		---	182.26	15.00
Maintenance (Office - incl. AMC)		30.00	0	6.40
Office expenses (wi-fi/ph., refreshments, etc.)		---	4.00	10.00
Honorarium/Meeting Expenses(GC/Fin.Com, Experts etc.)		20.00	2.80	10.00
Travel expenses (ext. mem; GSRF Officers-official work)			0.20	4.80
Vehicle (Chairman/Office)		---	4.09	10.00
Promotion & Publicity		---	---	2.00
Electricity / Water		---	---	18.00
Chartered Accountant / Professional Fees		---	---	1.00
Other Charges		---	---	3.00
Visiting Research Scholars		30.00	---	---
TOTAL		1510.00	418.79	703.00

Total estimated expenditure (2023-24): Rs. 15.10 crores

Total Revised estimated expenditure (2023-24): Rs. 4.19 crores

Total estimated expenditure (2024-25): Rs. 7.03 crores

List of approved GSRF Doctoral Fellowships during the year 2023-24

Sr. No.	Name of the Application	Title of the Project	Institution
1	Mr. Linus Coelho	Bioprospecting of Quorum Quenching molecules from prokaryotic microorganisms isolated from mangrove ecosystem of Goa	Goa University
2	Ms. Diksha Chandrakishor Salgaonkar	Integrated Marine macroalgae biorefinery for the production of starch, bioplastic and ethanol	Goa University
3	Ms. Samantha Da Costa	Studies on development of catalytic processes for mitigation of diesel exhaust emissions	Goa University
4	Ms. Anisha Ganaxama Naique Verencar	Petrological and geochemical studies of Tethyan oceanic lithosphere exposed at Naga hills & Andaman islands, North Eastern and eastern continental margin of India	CSIR-NIO
5	Ms. Namita Rane	Investigation of structural and optical properties of multifunctional 2-D nanomaterials	Goa University
6	Ms. Neha Mukund Phadte	Electrochemical synthesis and characterisation of transition metal oxide nanostructures and their nanocomposites for highly efficient supercapacitor applications	Goa University
7	Mr. Tejas Jagannath Naik	Co-production of carotenoids and polyhydroxyalkanoates from halophilic microorganisms and its applications	Goa University
8	Ms. Gandisha Pawar	Industrially important extremoenzymes of halophilic microorganisms from solar salterns of India	Carmel College
9	Mr. Naveen Tulshidas Gaonkar	Studies on Alkaliphilic Bacteria from sludge and their Biotechnological applications	P.E.S's R.S.N College
10	Mr. Akash Sadanand Naik Salgaonkar	Philosophical Significance of Dhavani: Exploring Dhvani in Isha Upanishad	Goa University
11	Ms. Siya Sangodkar	Locating We Intentionality: A study of Phenomenology of Society	Goa University
12	Ms. Namrata Kumari	Preparation, Characterisation and Catalytic applications of metal oxides and mixed metal oxides	Goa University

List of funded GSRF Minor Research Projects during the year 2023-24

Sr. No.	Name of the Principal investigator	Title of the Project	Institution
1	Dr. Varada Damare	Assessment of macrofauna-associated microbial diversity in the mangrove habitats of Goa and their role in ecosystem functioning with emphasis on marine fungi and thraustochytrid protists	Goa University
2	Dr. Vidya Desai	Exploring possible lead compounds towards development of potential anti-flavivirus agents	Dm's College & Research Centre
3	Dr. Nandakumar Sawant	Overseas Migration and "Emptiness" at the Place of Origin: Understanding Dynamics in Goa in the 21st Century	P. Chowgule College
4	Dr. Jivan Parab	Development of Portable Device for Adulterant Detection in Turmeric using Machine Learning	Goa University
5	Dr. Sunder Dhuri	Activation of Small Molecule Transition Metal Compounds Bearing Heme and Nonheme N-donor ligands and Effective Catalytic Transformations via a Biomimetic Approach	Goa University
6	Dr. Nilesh Borde	Mapping strategies in Managing Sports in Goa since Liberation: Developing a Strategy matrix for the future to create Sustainable Sports Tourism Destination.	Goa University
7	Dr. Rupesh Patre	Designing Coumarin-Marine Inspired Hybrids for Advanced Chemosensing in Goa's Water Ecosystem and their Therapeutic Applications	Goa University
8	Dr. Divakar Mesta	Study of Angiospermic and Microfungal Diversity associated with Myristica Swamps of Goa	Carmel College
9	Dr. Savita Kundaikar	Polyoxomolybdovanadates-based materials in electrochemical detection methods	Goa University
10	Dr. Meghanath Prabhu	Seaweed biofilter system for sequestration of heavy metals from industrial wastewater	Goa University

List of funded GSRF Minor Research Projects during the year 2023-24

Sr. No.	Name of the Principal investigator	Title of the Project	Institution
1	Dr. Suraj Velip	Mapping Business School Students' Attitudes towards Tourism Entrepreneurial Intentions in Goa	Goa University
2	Ms. Rupali Tamuly	Natural Disasters and its impact on the Economic Status of Tribals in Goa: A Household Analysis	P. Chowgule College
3	Dr. Pandurang Pandit	A Study of students readiness to engage in inquiry based science learning at preparatory, middle and secondary stage of NEP 2020 in the state of Goa	G. Parsekar College
4	Dr. Hemant Aiya	Betal worship in Goa	Goa University
5	Prof. Janet Fernandes	Navigating Covid-19 Pandemic Stressors: Impact on mental health and Academic achievement	St. Xavier's College
6	Ms. Loraine Barreto Alberto	Documentation of the endangered variety of Portuguese spoken in Goa	Goa University
7	Dr. Zamila Pacheco	Assessment of Government Primary Schools Functioning in Rural Areas of South Goa	Rosary College
8	Mr. Mohan Undakoti	Aligning Goa's Small and Medium-scale Enterprises (SMEs) with Sustainable Development Goals (SDGs): A Preparedness Assessment	Rosary College
9	Dr. Shamin Pereira	Entrepreneurial Skills and Avenues in Librarianship to Promote Selfemployment.	Goa University
10	Ms. Yogita Chhatre Kelkar	Designing a Handbook of Grammar for the Students of Goan Languages through Paninian Sanskrit Grammar	Goa University
11	Dr. Aparna Lolayekar	Protection of Child Rights in Goa: assessment of awareness and attitudes in coastal areas of Goa	Goa University
12	Dr. Ritam Naik Tari	Evaluating the efficacy of the paste containing triphala powder, honey and coconut oil in the desquamative gingivitis (DG) patients and also to assess its effect on salivary levels of IgG: a prospective interventional trial with 6 months follow up	Goa Dental College and Hospital
13	Dr. Madhavi Naik	Shape induced magnetic, electrical and catalytic properties of rare earth doped magnesium ferrite nanoparticles	Carmel College
14	Dr. Rasika Desai Gaokar	Persistent organic pollutant degrading bacteria from Durbhat marine waters, Ponda, Goa	PES's RSN College
15	Dr. Rajesh Kumar Hyam	Understanding, control and inhibition of the corrosion phenomenon of certain metals (Al, Cu) in different electrolytes and temperature using electrochemical techniques	Goa University

16	Dr. Prajesh Volvoikar	Visible light mediated organic transformation via dehydrogenative CC bond formation: Green approach for synthesis of natural product and its derivatives	Goa University
17	Dr. Sandeep Lawande	Assessment of long-term effects of non-surgical periodontal therapy with and without adjunctive laser treatment on periodontal status, glycemic control and systemic	Goa Dental College and Hospital
18	Dr. Daniel Coutinho	Tuning the magnetic and dielectric properties of ferrites by modifying the chemical synthesis route by changing the fuel ratio, using mixture of fuels and dopant cation concentration and studying their catalytic applications.	Carmel College
19	Dr. Manoj Borkar	Stable isotope analysis for characterizing the trophic niche of the 'Lesser Goa Mustard Tarantula' <i>Thrigmopoeustruculentus</i> (Pocock, 1899)	Carmel College
20	Dr. Niyati Kalangutkar	Physiochemical characterisation of Banded Iron formations (BIF) for sustainable economic prospects for trace and REE	Goa University
21	Prof. Rajendra Gad	Multiplexing of OAM beams for enhancing spectral efficiency	Goa University
22	Dr. Marlon Sequeira	Goan mangrove health assessment based on optical sensors using machine learning	Goa University
23	Dr. Anant Bhandarkar	Green synthesis of nanoparticles from natural source for the prevention of vector born Diseases: From Bench to Market.	Goa College of Pharmacy
24	Dr. Pratibha Bakre	Natural product derived cocrystal of ciprofloxacin and its confinement in nano TiO ₂ : an approach to enhance its bioavailability	Govt. College, Khandola

List of approved GSRF Research Start-up Scheme during the year 2023-24

Sr. No.	Name of the Investigator	Title of the Project	Institution
1	Dr. Shashank N. Mhaldar	Diastereo- and Enantioselective Synthesis of γ -Butyrolactones, Bioactivity studies and Application towards Natural Product synthesis	Dhempe College
2	Dr. Mridini Mahadev Gawas	A synergistic approach to dengue prediction in Goa: Mathematical modelling and deep learning	Goa University
3	Dr. Aditi Venkatesh Naik	Exploring the mysteries of Gymnocratheracanicarica: Phytochemistry in vitro culture and Bio-efficacy investigations in the Myserica Swamps of Western Ghats, India	Goa University
4	Dr. Vaibhav Mahableshwar Naik	Fluorescent carbon dots for environment pollutantsensing and remediation: Innovations in pollution mitigation	PES's RSN College
5	Dr. Deepika Karmalkar	Synthesis and Characterisation of mononuclear Ruthenium catalysts for effective water oxidation	Goa University
6	Dr. Chitra Mekoth	Fractional Regularisation using iterative method to solve ill posed problems	P. Chowgule College

List of Summer Schools approved during the year 2023-24

Sr. No.	Name of the Coordinator	Theme of the School	Institution
1	Dr. Jivan S. Parab	Hands on Robotics Programming	School of Physical Science and Applied Sciences, Goa University
2	Dr. Nitesh N. Naik	Introduction to Web Development	Goa College of Engineering, Farmagudi
3	Dr. Resham A.S. Bhambra	Research Skill Development	Fr. Agnel College, Pillar
4	Dr. Smita Sanzgiri	Orientation on Entrepreneurial Research	GVM College, Farmagudi, Ponda
5	Dr. Anand A. Mahajan	Hands-on Training on Analytical Instrumentation	Goa College of Pharmacy, Panaji
6	Dr. B.P Sanath Chandran	Applied Economics	Goa Business School, Goa University
7	Dr. Yogita K. Karkhanis	Summer School in Earth Sciences: Explore the untrodden Path	Dnyanprassarak Mandal's College, Assagao
8	Dr. Johnross Albuquerque	Chem-School: Where Science Gets Exciting	St. Xavier's College, Mapusa
9	Dr. Nisha V. Kevat	Basics of Laboratory Techniques	Government College, Sanquelim
10	Dr. Sunita R. Borkar	Skill development and Entrepreneurship in Microbiology: Mushroom Cultivation and Fermented Foods	PES College, Farmagudi

Scheme-wise funding during FY 2023-24

Sr. No.	Name of the Scheme	Total Number of beneficiaries	First Instalment disbursed in F.Y. 2023-24 (Rs.)	Total Sanctioned Amount (Rs.)
1	GSRF Doctoral Research Grant Scheme (2023-24)	12	21,00,000	1,17,00,000
2	GSRF Major Research Grant Scheme (2023-24)	10	82,55,000	1,76,70,000
3	GSRF Minor Research Grant Scheme (2023-24)	24	32,57,000	46,84,000
4	GSRF Research Start-up Grant Scheme (2023-24)	6	24,00,000	30,00,000
5	GSRF Summer/ Winter School (2023-24)	10	13,09,710	13,09,710
	TOTAL	62	1,73,21,710	3,83,63,710

Goa State Research Foundation

**UG-6, Upper Ground (I) Floor, Market Complex, Building 'B' Behind New Hanuman Temple
Alto-Porvorim, Goa - 403521**

Homepage: <https://gsrf.org.in>